## CURRICULUM FOR STUDIES IN GENERAL MEDICINE

## I year

I semester			II semester		
Subjects	Classes	Credits	Subjects	Classes	Credits
Biophysics	30	2	Medical chemistry	90	7
Cell morphology and physiology	60	5	5 Anatomy 2		7
Anatomy 1	90	9	Histology and embryology 2		6
Introduction to medicine	30	2	Health promotion	15	1
Medical psychology and sociology	75	5	Medical ethics	30	2
Histology and embryology 1	60	5	5 Introduction to human genetics		5
English language	30	2	First aid	15	1
Sports and health	30	Elective subject		15	1
	405	30		390	30

\*Condition for enrolling the second year of studies is obtained signature from the subject Sports and health

### II year

III semester		IV semester			
Subjects	Classes	Credits Subject		Classes	Credits
Biochemistry 1	105	7	Physiology 2	90	6
Physiology 1	150	11	Biochemistry 2	75	5,5
Introduction to immunology	45	3 Microbiology and parasitology		60	4
Medical statistics and informatics	45	3	3 Pathophysiology 1		7
Anatomy 3	90	6	Hygiene	75	5
			Basics in scientific work	30	1,5
			Elective subject	15	1
	435	30		450	30

V Semester		VI semester			
Subjects	Classes	Credits	Subject	Classes	Credits
Microbiology and parasitolology 2	75	6	Pathology 2	120	8
Pathophysiology 2	60	4.5	Clinical examination	92	7
Pathology 1	135	9	Pharmacology	105	7
Clinical examination	93	6	Epidemiology	75	5
Radiology	60	3	Transfusiology	30	2
Nuclear medicine	30	1.5	Elective subject	15	1
	435	30		437	30

IV year

VII Ser	VII Semester		VIII Semester		
Subjects	Classes	Credits	Subjects	Classes	Credits
Internal medicine	205	11	Internal medicine	150	9,5

Infectiology	105	7 Surgery		160	9,5
Dermatovenerology	80	5 Gynecology		100	6
Neurology	97	6 Clinical pharmacology		30	1,5
Elective subject	15	1	Clinical biochemistry	30	1,5
			Oncology	45	2
5	02	30		515	30

IX Semester		X Seme	X Semester		
Subjects	Classe s	Credits	Subjects	Classes	Credits
Surgery	175	10.5	Pediatrics	90	5
Gynecology and obstetrics	105	6	Psychiatry	95	5.5
Pediatrics	90	6	Otorhinolaryngology	97	6
Orthopedics	55	3	Ophthalmology	67	4
Anaesthesiology and reanimation and pain management	40	2	Family medicine	30	1.5
Emergency medicine	30	1.5	Forensic medicine	75	4
Physical medicine and rehabilitation	15	1	Occupational medicine	45	2
			Social medicine and health economics		2
	510	30		529	30

# VI year

XI Semester	XII Semester			
Subjects	<b>Duration</b>	Duration/organization		Credits
Internal medicine clinical practice	8 .	weeks	320	15
Surgery clinical practice	8 .	weeks	320	15
Gynecology and obstetrics clinical practice	4 .	4 weeks		7
Pediatrics clinical practice	3 weeks		120	6
Public health clinical practice	2 .	2 weeks		4
Family medicine clinical practice	1	1 week		2
Gerontology	1	1 week		2
Palliative medicine	1	1 week		2
Seminars* (3 subjects)	1 week Differential diagnosis (solving cases internal+surgery+pediatrics)		60	3
Clinical microbiology	2	days	15	1

		1250	60
Elective subject		15	1
Rational drug prescription and natural ways of healing	1 week	40	2

\*Seminars are conducted on the mentoring principle with professor and assistants. They are organized as active participation of students in the working process, participation in seminars and/or workshops, public presentations of case reports.

#### Conditional criteria I for II Semester

Signature: Anatomy 1		Anatomy 2
<b>Signature</b> : Histology and embryology 1	<b>→</b>	Histology and embryology 2
Signature: Cell morphology and physiology		Introduction to human genetics
Signature: Introduction to medicine	$\rightarrow$	Health promotion

### II for III semester

Passed exams: Anatomy 1 Anatomy 2 Histology and embryology 1		Anatomy 3 Physiology 1
Passed exams : Medical chemistry		Biochemistry 1
<b>Passed exams :</b> Cell morphology and physiology		Physiology 1 Introduction to immunology
Signature: Introduction to human genetics	$\rightarrow$	Introduction to immunology

<b>Signature</b> : Biochemistry 1	<b>→</b>	Biochemistry 2
<b>Signature</b> : Physiology 1	<b>→</b>	Physiology 2 Pathophysiology 1
Passed exams: Cell morphology and physiology Signature: Introduction to immunology	<b>→</b>	Microbiology & parasitology
	IV for V semester	
Passed exam: Physiology 1 Signature: * Pathophysiology 1 Passed exam: Physiology 1 Signature		Pathophysiology 2
Physiology 2 Pathophysiology 1 ** Microbiology & parasitology 1		Microbiology & parasitology
Passed exams: Physiology 1 Anatomy 3 Histology and embryology 2 Signature : Physiology 2 * Pathophysiology 1		Pathology 1
Passed exams: Physiology 1 and Anatomy 3 Signature : Microbiology & parasitology 1 * Pathophysiology 1		Clinical examination 1
Passed exam: Biophysics		Radiology Nuclear medicine

\*The student does not have a right to take Pathophysiology 2, Pathology 1 and Clinical examination exams before passing Pathophysiology 1 exam.

Passed exams: Biochemistry 1Physiology 2Signature: Pathology 1Pathophysiology 2 Clinical examination 1	Clinical examination 2
Passed exams:       Biochemistry 1       Physiology 2 Signature:       Pathology 1       Pathophysiology 2	Pathology 2
Passed exams: Biochemistry 1 Physiology 2Signature: Pathology 1 Pathophysiology 2	Pharmacology
Passed exams: Biochemistry 1 Physiology 2 Signature: Pathology 1 Pathophysiology 2	Transfusiology
Passed exam: Medical statistics and informatics	Epidemiology

\*\*The student does not have the right to take Microbiology and parasitology 2 exam before passing Microbiology and parasitology 1 exam.

### VI for VII semester

	v II semester	
Passed exams:		
Introduction to medicine		
Medical psychology and sociology		
Health promotion		
Medical ethics		
First aid		
Basics in scientific work		
Introduction to human genetics		
Biochemistry 2		
Microbiology and parasitology 2		
Pathophysiology 2		
Pathology 1		For any subject
Pathology 2		T of any subject
Clinical examination		
Introduction to immunology		
Hygiene		
Radiology		
Nuclear medicine		
Signature:		
*Pharmacology		
Epidemiology		
Transfusiology		

\*The student does not have the right to take Clinical pharmacology exam before passing Pharmacology exam.

1.	Subject		AN	ATOMY 1		
2.	Code		ME	MED 111		
3.	Study Program		Ge	General Medicine		
4.	Institution			Ss Cyril and Methodius University, Medi		
	(Unit, Institute, Chair, Dep	artment)		Faculty, Department of Anatomy		
5.	Degree of education (first or second cycle)		Inte	egrated 6-year st	udy	
6.	Study year/semester				Number of edits	9
8.	Responsible teacher		Pro MI	of. Julija Zhivadiı Ə	novikj Bogdan	ovska, PhD,
9.	Preconditions		No	ne		
10.	<ul> <li>Teaching goals:</li> <li>Introduction to anatomy medical disciplines;</li> <li>Introduction to osteolog. Introduction to the myol Brief content:</li> </ul>	y and sync	desmology	of the extremities	s, torso and he	-
	<ul> <li>Theoretical course:</li> <li>Introduction to anatomy</li> <li>Bone as an organ, types</li> <li>Osteology and syndesme</li> <li>Osteology and syndesme</li> <li>Osteology and syndesme</li> <li>Myology, angiology and</li> <li>Practical lessons:</li> <li>Practical exercises on sp</li> <li>Skeleton of the thorax, s</li> <li>Syndesmology of upper</li> <li>Topographical anatomy</li> <li>Regions of the arm and the second sec</li></ul>	of bones, ology of u ology of th ology of th aneurolog pecific bon opine, pelv and lower of upper a	its morphol pper and lo he torso. he head. cy of upper hes in the ex- ris and head r extremitie and lower e	logical characteri wer extremities. and lower extrem tremities, the tor s, the spine, torso xtremities.	istics. nities. rso and the hea	.d.
12.	Methods of studying: Interactive teaching durin textbooks, visual studying and specimens, computer-a	of skelet	ons with h			
13.	Total available time:			270 classes		
14.	Organization of the course	_		90 classes - the		e, practical
				course, semina 180 classes - he		l learning
15.	Forms of teaching activities	15.1.	Theoreti	cal course	45 class	
		15.2.	Practical Seminar		45 class	es
16.	Other forms of activities	16.1.	Practice			
		16.2.	Individu	al tasks		
		16.3.	Individu	al (home) learnir	ng 180 clas	sses
17.	Method of assessment	•				

17.1	Tests		min – max
		Continual assessment - 3(oral)	
		1. Osteology, syndesmology and regions of extremity. Osteology and	the upper
		syndesmology of thorax and spine.	6-10 points
		2. Osteology and syndesmology of the	
		lower extremity.	6-10 points
		3. Osteology and syndesmology of the	
		head	6-10 points

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				examinat 1. F u 2. P 16 3. C n grading	tion pper and lo xtremities. tractical ex ower extren oral examinaterial lea the grade in	myolog ower aminati nities. nation: rnt in A n the fin l on the	ractical examin gy, angiology a ion: anatomical 6-10 points integrative kno Anatomy 1. 18- nal exam is give basis of the sur	and neurolo 1 elements of wledge of 30 points n according	bgy of 2-20 po f upper the wh g to the	oints and nole
	17.2	Seminar paper/pro (oral/writ presentati	ten					]	min – 1 - 2	max
	17.3	Active participat		Theoretical course Practical course Completed textbook				]	min – m 1-2 4 - 6 mandat	5
18.	Grading criteria (points / grade)			fron fron fron fron	up to 59 n 60 to 68 n 69 to 76 n 77 to 84 n 85 to 92 93 to 100	points points points points points			5 (fiv 6 (six 7 (seve 8 (eigh 9 (nin 10 (te	ve) F x) E n) D nt) C ne) B
19.	Requirement for signature and taking the final exam			The st activit Cond In ord points a sem In ord minim studer	udent is re ies. itional crit er to get a in both the inar paper; er to take t num points at has not o ments, he/s	quired for a signature of the signation	to actively follor or assessment of are, the student shal and practical c l exam, the stude three continual a the minimum p l be obligated to	<b>knowledg</b> hould obtai courses, and ent should o sssessments points in the	planned e: n minin l to pres obtain th ; If the continu	d num sent ne s
20.	Langua	age of instr	uction	Englis	h					
21.		d of monito					to classes and in	teractive pa	articipat	ion
22.	<u> </u>	of teaching	g process	in the	pretical and	i practi	cal lessons.			
	Mandatory       1.     Systematic hu part 1.		c human a	natomy -	D, Jan N, Matve	rska Lazarova nevska Nakeva Papazova M, ceva N, dinovikj J.	Skopje: Medical Faculty	2016		

	Add	litional			
	1.	Clinically oriented anatomy.	Moore KL.	Skopje:	2011
				Tabernakul	
	2.	Atlas of human anatomy			
22.2.	3.	Human sectional anatomy.	Ellis H, Logan BM,	Skopje: Ars	2011
			Dixon AK.	Lamina	
				DOO	
	4.	Peripheral nerve	Papazova M,	Skopje:	2009
		systemclinical anatomy.	Zhivadinovikj J.	MARIV-S	

1.	Subject	ANATOMY 2					
2.	Code	MED 121					
3.	Study Program	General Medicine					
4.	Institution (Unit, Institute, Chair, Department)	Ss Cyril and Methodius University, Medica Faculty, Department of Anatomy					
5.	Degree of education (first or second cycle)	Integrated 6-year study					
6.	Study year/semester	First (I)7.Number of7Second (II)credits					
8.	Responsible teacher	Prof. Julija Zhivadinovikj Bogdanovska, PhD, MD					
9.	Preconditions	Signature from Anatomy 1					
10.	<ul> <li>Teaching goals:</li> <li>Introduction to the descriptive and topographical anatomy of the thoracic, abdominal and pelvic walls;</li> <li>Introduction to the topography of the thoracic, abdominal and pelvic cavity;</li> <li>Introduction to the morphology, the structure and the syntopic, skeletotopic and holotopic relations of the thoracic, abdominal and pelvic cavity contents.</li> </ul>						
11.	<ul> <li>Brief content:</li> <li>Theoretical course: <ul> <li>Thoracic walls and the topographical division of the thoracic cavity.</li> <li>Contents of the pleuropulmonary regions, and the anterior and posterior mediastinum.</li> <li>Abdominal walls with weak points and topographical division of the abdominal cavity.</li> <li>Contents of the superior and inferior floors of the peritoneal cavity and the retroperitoneal space.</li> <li>Pelvic walls and division of the pelvic cavity to floors.</li> <li>Contents of the superior, subperitoneal and subcutaneous pelvic floor.</li> </ul> </li> <li>Practical course: <ul> <li>Practical exercises on cadavers, or more specific:</li> <li>Regions of the thorax with the organs in the thoracic cavity.</li> <li>Regions of the pelvis with the organs in the pelvic cavity.</li> <li>Learning the morphology, structure, syntopic, skeletotopic and holotopic relationships of the organs in the thoracic, abdominal and pelvic cavity by practical exercises on cadavers</li> </ul> </li> </ul>						
12.	and fixed specimens.         Methods of studying:         Interactive teaching during lectures and practical trainings, independent studying by using textbook, practical exercises on the regions of cadavers, practical exercises on individual organs, computer -assisted studying.						
13.	Total available time:	270 classes					
14.	Organization of the course	90 classes - theoretical course, practical course, seminars 180 classes - home individual learning					

15.	Forms activiti	of teaching es	15.1.	Theoretical course	45 classes
			15.2.	Practical course, Seminars	45 classes
16.	Other forms of activities		16.1.	Practice	
			16.2.	Individual tasks	
			16.3.	Individual (home) learning	180 classes
17.	Metho	d of assessment			
	17.1	Tests			min – max
			Contin	ual assessment of knowledge -	2 (oral)

			1. Thor 2. Abdo	1				
			Final exam: final test + practical examination +oral examination					
			1. Final test: pelvis9-15 points2. Practical examination: region of the thorax, abdomen and pelvis6-10 poin3. Oral examination: Integrative knowledge of the whole					
			material learnt in Anatomy	2.	18-30 points			
			The grade in the final exam grading table, and on the ba of the activities.					
	17.2	Seminar paper/project (oral/written presentation)			min – max 1 - 2			
	17.3	Active			min – max			
		participation	Theoretical course		1-2			
			Practical course		4 - 6			
			Completed textbook		mandatory			
18.		ng criteria	up to 59 points		5 (five) F			
	(points	s / grade)	from 60 to 68 points		6 (six) E			
			from 69 to 76 points		7 (seven) D			
			from 77 to 84 points		8 (eight) C			
			from 85 to 92 points		9 (nine) B			
			from 93 to 100 points		10 (ten) A			
19.	-	ement for signatu		to actively follow all of	the planned			
	and tal	king the final exam	activities.					
			Conditional criteria fo		-			
			In order to get a signatu					
			points in both theoretica	I and practical courses,	, and to present			
			a seminar paper;					
			In order to take the final					
			minimum points in the t					
			student has not obtained assessments, he/she will					
			final exam.	toe obligated to pass th	lem berore the			
20.	Ŭ	age of instruction	English					
21.		d of monitoring the	Attendance of students		ve participation			
		v of teaching process	in theoretical and practi-	cal lessons.				
22.	Textbo	ooks						
	22.	1. Mandatory						

	1.	Systematic human anatomy - part 2.	Tosovska Lazarova D, Janevska Nakeva N, Papazova M, Matveeva N, Zhivadinovikj J.	Skopje: Medical Faculty	2016
	Ado	litional	-	L.	
	1.	Clinically oriented anatomy.	Moore KL.	Skopje:	2011
				Tabernakul	
	2.	Atlas of human anatomy			
22.2.	3.	Human sectional anatomy.	Ellis H, Logan BM,	Skopje: Ars	s 2011
			Dixon AK.	Lamina	
				DOO	
	4.	Peripheral nerve	Papazova M,	Skopje:	2009
		systemclinical anatomy.	Zhivadinovikj J.	MARIV-S	

1.	Subject	ANATOMY 3				
2.	Code	MED 211				
3.	Study Program	General Medicine				
4.	Institution	Ss Cyril and Methodius University, Medical				
	(Unit, Institute, Chair, Department)	Faculty, Department of Anatomy				
5.	Degree of education	Integrated 6-year study				
	(first or second cycle)					
6.	Study year/semester	Second (II) /7.Numberof6Third (III)credits6				
8.	Responsible teacher	Prof. Julija Zhivadinovikj Bogdanovska, PhD, MD				
9.	Preconditions	Passed exam of Anatomy 2				
10.	Preconditions       Passed exam of Anatomy 2         Teaching goals:       To become acquainted with the morphology and the structural elements of the head and neck;         To become acquainted with the topography of the head and neck;         To become acquainted with the muscles, fasciae, blood and lymph vessels, nerves and the organs of the head and neck;         To become acquainted with the muscles, fasciae, blood and lymph vessels, nerves and the organs of the head and neck;         To become acquainted with the morphology and structure of the sense of hearing, sense of sight and sense of balance;         To become acquainted with the morphology, structure and the significance of the central nervous system components (CNS).         Brief content:         Theoretical course:         Myology, neurology and angiology of the head and neck.         Organs of the head and neck.         Components of CNS         CNS paths         Vascularization of CNS         Creebrospinal fluid         Sences of sight, hearing and balance					
	<b>Practical course:</b> Topographical regions of the head and neck					
12.	Topographical regions of the head and neck         Methods of studying:         Interactive teaching during lectures and practical trainings, independent study by using textbooks, visual studying, practical exercises on cadavers and specimens, computer-assisted learning.					
13.	Total available time:	270 classes				
14.	Organization of the course	<ul><li>90 classes - theoretical course, practical course, seminars</li><li>180 classes - home individual learning</li></ul>				

15.	Forms activit	of teaching ies	15.1.	Theoretical course	45 classes		
			15.2.	Practical course,	45 classes		
				Seminars			
16.	Other	forms of activities	16.1.	Practice			
			16.2.	Individual tasks			
			16.3.	Individual (home) learning	180 classes		
17.	Metho	d of assessment					
	17.1	Tests			min – max		
			Continu	al assessment of knowledge -	2 (written)		
			3	. Neurology of the head and ne	eck 12-20 points		
			4. Sences of sight, hearing and balance 6 - 10 points				
			Final ex examina	xam: final test + practical exan ation	mination +oral		

	17.2	Seminar paper/project (oral/written presentation)	<ul> <li>neck, senses and the centra</li> <li>2. Practical examination:</li> <li>3. Oral examination:</li> <li>material learnt in Anatomy</li> <li>The grade in the comprehending of the comprehending</li></ul>	12-20 points ion: region of the head and neck 6-10 points Integrative knowledge of the whole
	17.3	Active		min – max
		participation	Theoretical course	1-2
			Practical course	4 - 6
18.	Gradin	ng criteria	Completed textbook up to 59 points	mandatory 5 (five) F
10.		s / grade)	from 60 to 68 points	6 (six) E
	(point)	s, grude)	from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C
			from 85 to 92 points	9 (nine) B
			from 93 to 100 points	10 (ten) A
19.	-	ement for signature king the final exam	<u> </u>	to actively follow all of the planned
	und tu	king the multivity of the		or assessment of knowledge:
				are, the student should obtain minimum
				al and practical courses, and to present
			a seminar paper;	* * *
				l exam, the student should obtain the two continual assessments; If the
			student has not obtained	I the minimum points in the continual I be obligated to pass them before the
20.	Langu	age of instruction	English	
20.	-	d of monitoring the	<u> </u>	to classes and interactive participation
		of teaching process	in theoretical and practi	· ·
22.	Textbo			
	22.	1. Mandatory		

	1. Systematic human anatomy part 3.	<ul> <li>Tosovska Lazarova</li> <li>D, Janevska Nakeva</li> <li>N, Papazova M,</li> <li>Matveeva N,</li> <li>Zhivadinovikj J.</li> </ul>	Skopje: 20 Medical Faculty	16
	Additional		1	
	1. Clinically oriented anatomy.	Moore KL.	Skopje: Tabernakul	2011
	2. Atlas of human anatomy			
22.2	3. Human sectional anatomy.	Ellis H, Logan BM, Dixon AK.	Skopje: Ars Lamina DOO	2011
22.2.	4. Peripheral nerve systemclinical anatomy.	Papazova M, Lazarova D, Zhivadinovikj J.	Skopje: MARIV-S	2009
	5. Clinical anatomy of the organ of hearing and balance.	Papazova M, Zhivadinovikj J, Netkovski J.	Skopje: UKIM, Medical Faculty	2014

		6.	Clinical anatomy of the		Papazov Zhivadi Netkovs	novikj	Medi Facul	/I, cal ty	2016
		7.	Vascularization of the l	orain.	Papazov Lazarov Zhivadi	/a D,	J. Skop UKIN J. Medi Facul	1, cal	2010
1.	Subject					GY Al	ND EMBRY	OLO	GY (1)
2.	Code			MED	113				
3.	Study pro	gran	1	Unde	rgraduat	e gene	ral medicine	progra	ım
4.	Institution (Unit, Institute, Chair, Department)			Institute of Medical Histology and Embryology UKIM – Faculty of medicine					
5.	Educational degree (first or second cycle)			Integ	rated cyc	cle			
6.	Academic	year	r / semester	First	/ first	7.	Број на ЕК кредити	ГС	4
8.	Professor-	Lect	turer in charge	Prof.	Liljana	Miler	nkova M.D. F	hD	
9.	Precondit	ions:		/					
10.	<b>Teaching</b> • To • To • To • To	goals get a be al be al get s	s and study program acquainted with the cor- ble to define and classi- ble to stress out the fun- kills to identify the tiss al components and to c	fy the sues or	f human tissues. l abilitie 1 microso	prenates of ea	ch componen lides, to elabo	t of th	

11.	Content of the study program	
	Theoretical and laboratory practice class	SSES:
	- The structure of male and female game	ete; fertilization, implantation of the
	conceptus.	
	- Preembryonic period, (embryogenesis)	, embryonic period (organogenesis), fetal
	period.	
	- Structure and function of placenta and	of embryonic sac.
	- Disturbances of the prenatal developm	ent and origin of the congenital anomalies.
	- Microscopic slides, microscope, tissue	S.
	- Structural characteristics and types of e	epithelial, connective, cartilaginous, bone,
	muscle and nerve tissues.	
	- Histological characteristics of the: bon	es and junctions, heart, blood and lymphatic
	vessels, lympho-epithelial and lympho	
	- Embryonic development and origin of	the congenital anomalies of cardiovascular
	and skeletal system.	
12.	Learning methods	
	- Through visual presentation during	accentuated concept lectures, studygoal
	oriented learning, and interactive teaching	
	- Through power point, video presen	tations and other aids during laboratory
	practice classes.	
	- Through video-presentation and in	dividual examination of microscopic slides.
	- Through student presentations and	open discussions during seminars.
	- Through learning from recommend	led literature and selected files available on
	the web site of the Institute of histology an	
13.	Total number of hours	150
14.	Distribution of the available time	

15.	Form activi	s of educational ties	15.1	Lectures - theoretical course	30		
			15.2	Laboratory practice classes:	30		
16.	Other	r forms	16.1	Projects assignments			
			16.2	Individual tasks	6		
			16.3	Home learning	84		
	Asses points	ment of knowlwdg s	ge				
	17.1	Continuous	1.	Written: Prenatal devel	opment, placer	ita, causes	
		Assessment:		nsequences of the develo	opmental		
			distur	bances		12-20	
			<b>2.</b> 20	Written: Tissue structu	12-		
				ratory practice: Micros	scopic slides fro 9 -15	om different	
		Final exam	-	mphoid organs, skeletal n (histology and embryo	•	dio-vascular	
			<ol> <li>Laboratory practice: Microscopic slides of lymphoid organs, bone, heart, blood vessels and lymphatic vessels. 7 - 12</li> <li>Oral: Lymphoid organs, skeletal system and cardiovascular system (histology and embryology) 14 - 23</li> </ol>				

	17.2	Seminars / projects (oral or written presentation)		min - max points		
	17.3 Active			points		
		participation	Theoretical course	1-3		
			Practical course	4-7		
18.		vledge	Up to 59	5 (five) F		
		sment criteria	points			
	(point	s/grade)	from 60 to 68	6 (six) E		
			from 69 to 76	7 (seven) D		
			from 77 to 84	8 (eight) C		
			from 85 to 92	9 (nine) B		
			from 93 to100	10 (ten) A		
19.	Crite	ria for obtaining	Conditional criteria	for signature:		
	0	ture and taking		To take active participation in all the teaching activities		
	the fin	nal exam	including continuous			
			<ul> <li>Students which have a assessment, apply for f In case the student ha on each continual asse complete final exam.</li> <li>Complete final exam.</li> <li>Complete final exam the continuous assess examination.</li> <li>The grade for the entititable of grades and bar</li> </ul>	s not achieved minimum points (60%) essment, he/she applies to take the		

20.	Language			English				
21.	Metho	ods of e	evaluation	Anoni	imous student's evaluati	ion of the subject, tea	chers and	
	of qua	lity of	education	collab	orators involved in the	educational activities		
22.	Litera	ture / 1	textbooks					
	Mandatory litera			ure				
			Author		Title	Editor	Year	
		1	The stuff of	of the	Study quide for	On the web site of	2017	
			Department	of	Histology &	the Medical		
			his-tology embryo-log	and y	embryology (1)	faculty of Skopje		
	22.1	2	Milenkova	L,	Opsta embriologija na	Mariv	2009	
	22.1		Kostovska I	١.	covekot			
					(General human			
					embryology);			
		3	Kostovska	-	Histologija-	Mariv	2009	
	Milenkova			Gradba na tkivata				
					(Histology- tissue			
					structure);			

	4	Kostovska N, Milenkova L.	Histoloska gradba i embrionalen razvitok na organskite sistemi (Histology and embryonicdevelopme nt of organ systems)	Medicinski fakultet, Skopje	2013
	5	Mitevska E.	Priracnik za prakticna nastava po histologija i embriologija-1 (Manual for labora-tory practice for histology and embryology-1)	Medicinski fakultet, Skopje	2012
	6	The stuff of the Department of his-tology and embryo-logy	Selected files (Power Point presentations) available on the web site of the Med. Fak.	Contiuously revised	
	Aditi	onal literature			
		Author	Title	Editor	Year
	1	Michael H. Ross, Wojciech Pawlina	Histology, A text and atlas: (original version and translation in macedonian)	original version 5th ed.	2010 translatio n in macedon ian
22		J.K.Junqueira, H. Carneiro	Basic histology. Text and atlas;	original version 11th ed.	2009 translatio n in macedon ian
	3	Keith L. Moore, T.V.N. Persaud	The developing human.	original version 8th ed.	2010 translatio n in

			C	inically oriented		macedon
			en	nbryology:		ian
			(0	riginal		
				version and		
			tra	anslation in mace-		
			do	onian)		
			w	www.biolucida.co		
			<u>m</u>	m Medical		
			ed	ucation edition		
1.	Subject			HISTOLOGY	AND EMBRYOLO	GY (2)
2.	Code			MED 122		
3.	Study progra	ım		Undergraduate general medicine program		
4.			Institute of Medic	al Histology and		
	Department)		Embryology UKIM – Faculty of medicine		cine	
5.	<b>Educational degree (first or</b> Интегриран циклус					
	second cycle)	_				

6.	Academic year / semester	First/7.Number of ECTS credits6			
8.	Professor-Lecturer in charge	Prof. Liljana Milenkova M.D. PhD			
9.	Prerequisites	None			
10.	). Teaching goals and study program (competencies):				
	<ul> <li>of structural components of tissues a comprehension of:</li> <li>specific combination of tissues in e</li> <li>crucial components of organs;</li> <li>specific structural properties determ</li> <li>role of additional (supporting) stru</li> <li>3. Acquiring ability to present of</li> <li>4. Acquiring basic ability to match and the structural properties and</li></ul>	each organ; mining basic organ function;			
11.	Brief content of study program Theoretical and laboratory practic Microscopic structure, embryonic de malformations of organ systems - gastro-intestinal, - urinary, - genital, - respiratory, - endocrine, - central nervous system, - skin - sensory organs.	ce classes: evelopment, concept of origin of congenital			
12.	Learning methods				
	<ul> <li>oriented learning, and interactive te</li> <li>Through power point, video practice classes.</li> <li>Through individual examination</li> </ul>	presentations and other aids during laboratory			

	- Through learning from recommended literature and selected files available on the web site of the Institute of histology and embryology.					
13.	Total number of hours		1	80		
14.	Distribution of the available time					
15.	Forms of educational	15.1	5.1 Theory lectures:		30	
	activities		Laboratory practice classes:		45	
16.	Other forms	16.1	Project as	signments		
			Individual	tasks	18	
		16.3	Home studing		78	
	Assesment of knowlwdg points	ge				

	17.1 Continuous Assessment:			8,4-14 Microscopic 2,4 - 4	ary and male & female genital itten:
		Final exam		system, C.N.S., eye,	ttory system, endocrine 46 ear ; Microscopic slides 4,8 - 8 22,8-
	17.2	17.2 Seminars / projects (or or written presentation)			points min - max
	17.3	Active participati	ion	points Theoretical o Practical cou	
18.	criter	vledge assessment ia ts/grade)	fr fr fr fr	Up to 59 pints com 60 to 68 com 69 to 76 com 77 to 84 com 85 to 92 ping 93 to 100	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A
19.	signature and taking the final examCriter To tak activit for as Studer assesm In case			onal criteria for signatur active particip s including co sment on fina s which have s nt, apply for f he student has	for assesment of knowledge: re: pation in all the teaching ontinuous assesments. Criteria al exam: succesfully pass the continuous

		take the complete final exam. <b>Complete final exam</b> : The final exam is a combination of both written examinations (segments of the continuous assessments with less of 60%) and final examination. The grade for the entire exam is obtained according to the table of grades and based on the sum of the points gained in all the activities including the continual assessment.
20.	Language	English

21.	of the educa	quality tion		Anonimous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	Wand	Basic						
			Author	Title	Editor	Year		
		1	The stuff of the	e Study quide for	On the web site of	2017		
			Department o	25	the Medical			
			his-tology and	embryology (2)	faculty of Skopje			
		2	embryo-logy Kostovska N	I, Histoloska gradba i	Medicinski	2013		
		2	Milenkova L.	embrionalen razvitok	fakultet, Skopje	2013		
				na organskite sistemi	FJ-			
	22.1			(Histology and				
				embryonicdevelopme nt of organ				
				nt of organ systems)				
				·•••••••••••••••••••••••••••••••••••••				
		3	The stuff of the		Contiuously			
			Department o		revised			
			his-tology and	l presentations) available on the web				
			embryo-logy	site of the Med. Fak.				
		Aditional literature						
			Author	Title	Editor	Year		
		1	Michael H. Ross		original version	2010		
			Wojciech Pawlin	a <b>and atlas</b> : (original version and	5th ed.	translat ion in		
				translation in		macedo		
				macedonian)		nian		
		2	J.K.Junqueira, H		original version	2009		
	22.2		Carneiro	and atlas;	11th ed.	translat		
	22.2					ion in macedo		
						nian		
		3	Keith L. Moor	e, The developing	original	2010		
			T.V.N. Persaud	human.	version	translat		
				Clinically oriented	8th ed.	ion		
				embryology (original version		n 1		
				and translation in		macedo		
				mace-donian)		nian		
		4		www.biolucida.co				
				m∖ Medical education edition				

1.	Subject	BASIC IMMUNOLOGY
2.	Code	MED 214
3.	Study Program	General medicine
4.	Organizing Institution (Unit,	UKIM-Faculty of Medicine Cathedra
	Institute, Chair, Department)	of Immunology
5.	Educational degree (first or	Integrated cycle
	second cycle)	

6.	Study	year /semester		Se d	cond/Thir	7.	Number of credits	3		
8.	Respo	onsible teacher		Pr	of Dr. Kocl	ho Din	nitrovski			
9.		nditions:			Passed exam Morphology and Phisiology of					
				ce		1				
10.	Teach · ·	ning goals of the stu Instroducing studer Instroducing studer Training the studen immunodiagnostic Connecting basic im	nts in bas nts in im ts for pe procedu	sics of Im munologi rformimg res	munology cal disorders ; and interpr	s etating	-			
11.	Conte	nts of the study prog		07 -						
		Theoretical course:								
	•	T and B cell immune	e respon	se						
	•	Immune effector m	echanisı	n						
	•	Immunological diso	rders							
	Practio	cal course:								
	•	Immunological diag								
	•	Analyses of immune	ological	cases of p	atients histo	ory				
12.	Meth	ods of studying:								
13.	Total	no. of hours:			45 hours	5				
14.	Distri	bution of the avail	able tin	-						
15.		of educational	15.1	Lecture	es-theoretica	al 2	24 hours			
	activi	ty		course       Practicals (laboratory,			21 hours			
			15.2			ory,				
				clinical	), rs, team					
				work	s, team					
16.	Other	types of	16.1		assignment	ts	hours			
10.	activi		16.2	5	ual tasks		hours			
			16.3		studying		hours			
17.	Asses	sment of knowledg			, <u> </u>					
	points	0	,							
	17.1	Tests		3 Co	ontinuous te 2 12-20. 2 6-10 2 Comple		total j	- 30 max. points		
		Final exam			ect:		25 min. 17 pc	- 42max. pints		
					exam		25. pc			

	17.2	Seminar work/pro (presentation: write oral)		Seminar wo	rks	1 min 2max. 2 points
	17.3	Active participation	on			minmax.
				Theoretical	course	points 1-3
				Practical co	urse	points 4-7
18.	Know	Knowledge assessment up		to 59 points		5 (five) F

	criteri	<b>.</b> .	Γ		0 + c + c + c + c + c + c + c + c + c +			( (aire) E	
		a. ts/grade	.)		50 to 68 points		7	$\frac{6(\text{six})}{(\text{source})}$ D	
	(poin	ts/graue	-		69 to 76 points			$\frac{(\text{seven}) D}{(\text{signature}) C}$	
			_		77 to 84 points			(eight) C	
			_		35 to 92 points			$\frac{9 \text{ (nine) } B}{10 \text{ (tar)}}$	
10	<u>C</u> uit au	· 1			3 to 100 points	e		10 (ten) A	
19.			btaining a	Cond	itional criteria	for ass	essment of knowle	edge:	
	final e		taking the						
20.			the course	Englis	h				
20.			valuation of			evalue	ation of the subject,	teachers	
21.			education				the educational ac		
22.	Litera	•	cudeation			Jived II			
22.	Litera	1	atory textboo	ke					
	Author				Title		Publisher	Year	
		1 Prof K.		Lectures		T donisher	current		
		Dimitrovski		i	Lectures			current	
		2	Doc D. Tra		Lectures			Current	
		3	Kuby	JKOV	Immunology 6	5 <sup>th</sup> ed	New York : W.H.	2007	
	22.1	5	Ruby		minunology	5 64	Freeman	2007	
		4	Immunolog	Immunology practicum				2005	
			1						
		5	Analyses	of	Spiroski at al.			2007	
			immunolog	ical					
			cases						
		6							
		7							
	22.2	Addit	ional literatur						
			Autho	r	Title		Publisher	Year	
1.	Subjec	t			RATIONAL			NG ANE	
2	Cada				NATURAL W	AYSU	F HEALING		
2. 3.	Code	Ducanon			MED-615				
<u> </u>	Institu	Program	1		General Medicine Ss Cyril and Methodius University, Medical Faculty,				
4.			, Chair, Depar	tment)	Department of		•	ical Faculty	
5.	Degree		education		Integrated 6-year				
	<b>U</b>	or second							
6.		year/sen	÷		Sixth (XI)/ (XII	I)	7.Number of credi	ts 2	
8.	Respo	nsible te	acher		Prof. Dimche Z	Zafirov,	PhD, MD	I	
9.		ditions			Fullfilled condi	tion for	enrollment in the VI	I semester	
10.		ing goals		4h a 1- '					
					c concept of ratio			madiation	
1							oise for a "personal"		
	• ( ±91	ning hae	ac knowledge	anoni ina	e natural wave of	healing	espectanty anomine		
		ning bas licines.	ic knowledge	adout the	e natural ways of	healing	, especially about the		

		<ul> <li>Rational drug prescribing for selected indications.</li> <li>Natural ways of healing.</li> <li>Herbal medicines, efficacy and safety associated with the use of the herbal medicines.</li> </ul>								
	• Eva	0	·	by using the concept for n eases (practical excercises	0					
12.			tures, ind	ependent study by using te	extbooks, practical exercise					
13.	Total a	available time:		60 classes						
14.	Organ	ization of the course		excersises, semina	etical course, practical ars individual learning					
15.	Forms	of teaching activities	15.1.	Theoretical course	30 classes					
			15.2.	Practical course, Seminars	10 classes					
16.	Other	forms of activities	16.1.	Practice						
			16.2.	Individual tasks						
			16.3.	Individual (home learning	e) 20 classes					
17.	Metho	d of assessment		Ivaniing						
	17.1	17.1			min – max					
			Conti	nual assessment*	points 12-20					
		Tests		tten test with case-reported adjustement (team work)	included for individual					
			max ( 25- 41	Dral examination	min – <b>points</b>					
		Final exam:								
	17.2	Seminar paper/project (oral/written presentation)	Semin	ars	min – m 12 - 20					
	17.3	Active participation	Theory	tical course*	min – ma: 1-3					
				al course**	10-16					
				nce at the theoretical cours	es:					
			30-509	1						
			71-100	1						
			**Practical course: Presence: 4 points							
				tive evaluation of knowled s- max. 10 points	ge: min.					
			Colloq	uium of a practical excersion	se: 2 points					
	Credit	ng criteria		up to 59 points	5 (five) ]					
18.	T A TEMPT									

				from 69	to 76 p	oints			7 (s	even) D
				from 77 from 85 from 93 to	5 to 92	points			9	(eight) C (nine) B 0 (ten) A
19.	Requirement for signature and taking the final exam		activities. <b>Conditional criteria for assessment of knowledge:</b> In order to get a signature, the student should obtain minimpoints in both theoretical and practical courses, and to prease a seminar paper. In order to take the final exam, the student should obtain minimum points of the continual assessment. If the student has not obtained the minimum points of continual assessment, he/she will be obligated to pass before the final exam.					o present obtain the ts of the		
20.	Language o	f insti	ruction	English						
21. 22.	Method of r of teaching Textbooks	oring the quality ss			luation by tl nat participa		of the s	subject,	as well	
			ndatory			- 15				
		1.	Rang HP, Dale	e MM et al.		Rang and D Pharmacolo		Elsevi	ier	2013
	22.1.	2.	2. Schulz V, Hansel R, Tyler			Rational phy		Sping Verlag Berlin Heide	g, I	2001
		Add	litional						0	
		1.	Capaso F, Gag Grandolini G,		1	Phytotherap reference to medicine		Spring	ger	2003
	22.2.	2.	Francetic I, Vi	tezic D.	]	Basics of clipharmacolog		Medic naklac Zagre	la,	2007
		3.	Zafirovska K e	et al.	i	Guidelines f implementinevidence ba medicine	ng of	Minis	try of 1 of R.	2012
1.	Subject	1				DICAL CH	EMISTRY	ľ		
2. 3.	Code Study Proc	TPO 100				D 123 eral Medicii	20			
<u>3.</u> 4.	Study Prog Institution (Unit, Insti		Chair, Departm	ent)	Ss	Cyril and lty, Departi	Methodius		versity,	Medical
5.	Degree of or second	educa	tion (first			grated 6-yea		•		
6.	Study year				First Seco	(I) / ond (II)	Number credits	of		7
8.			ncher			. D-r Marija	Krstevska,	PhD		
<u>9.</u> 10.	Responsible teacher         Preconditions         Teaching goals:         • The Science of Matter and Chem         • Solutions and Electrolytes         • Energy and Kintetics of chemical         • Acids and Bases, Redox reaction         • Structure and Properties of Organ				eactior H and	ds in Molec 1 Buffers	uls			

	Biologicaly importa acids)	int Organi	c compoun	ds (Carbohydrates, P	roteins, Lipids, Nucleic
11.	Brief content:				
	Theoretical course:				
	<ul> <li>Basic thermochemic chemical reactions,</li> <li>Solutions, Quantitat Strong electrolytes (</li> <li>Oxido-reduction (R in water solutions</li> <li>Hemistry of pollution</li> <li>Chemistry of carbon derivates, Halides, A and Sulfur containing</li> <li>Structures and funct</li> <li>Chemistry of pollutic contaminated water</li> </ul> Practical lessons: <ul> <li>Preparation and exa in chemistry, Calculation from ch</li> </ul>	c lows, En Chemical ive Comp (dissociati edox react on, pollution atom, Al Alcohols, 1 ang compou- cions of ca ion, pollut before ref mination of lation of s emical eq	ergy of che equilbrium osition of ( on) tions), The on of natur lkanes, Alk Ethers, Ket unds urbohydrate tion of air, turning to t of colligati olution cor uations and	n Compounds, Colligat ory of acids and bases al water and air enes, Alkynes, Arom ones, Aldehydes, Cas ones, Cas ones, Cas ones, Cas ones, Cas ones, Cas one	mical kinetics, Rates of ive properties, Weak and s, pH, Buffers, Equilibrium natic compounds and their rboxylic acids, Nitrogen cleic acids. ater, purification of nt, getting clean water. ions, Volumetric analysis
	carbohydrates, prote	ein and lip	oids.		
12.	Methods of learning: Interactive teaching (theor seminar work and another for				tory exercises (practices),
13.	Total available time:			90classes	
14.	Organization of the course			39 classes - theoret 41 practical course, 180 classes - home	, seminars
15.	Forms of teaching activities	15.1.	Theoretic	cal course	39 classes
		15.2.	Practical Seminars		41 classes
16.	Other forms of activities	16.1.	Practice		
		16.2.	Individua		
		16.3.	Individua	ll (home) learning	120 classes
17.	Method of assessment				

17.1	Tests	Two partial tests (written) 1. Partial test 1 - written	min – max <b>12 – 20 points</b>
		<ul> <li>Basic structure of atom, Periodic T</li> <li>Types of chemical bonds, Water, S properties of solution</li> <li>Nonelectrolyte and Electrolyte Sol</li> <li>Acids and Bases, Solubility od sale</li> <li>pH, Buffers, Henderson-Hasselbace</li> </ul>	Solutions, Colligative lutions ts
		2. Partial test 2 - written	9 –15points
		<ul> <li>Structure, isomerism, reactivity an organic compounds</li> <li>Thermodynamic, First and Second</li> </ul>	

			<ul> <li>Chemical equilibrium</li> <li>Energy of activation</li> <li>Catalyse, catalysts, b</li> </ul>	
			3. Practical exam – written	9 – 15 points
			4. Final exam oral examina	tion 18–30 points
			a) Organic chemistry, o	chemistry of carbon
			<ul> <li>Cycloalkanes</li> <li>Aromatic Hydrocarb</li> <li>Heterocyclic Hydroc</li> <li>Alcohols, Phenols, E</li> <li>Ketones, Aldehydes,</li> <li>Nitrogen and Sulfur amides, tiols)</li> </ul>	carbons Ethers
	17.2	Seminar paper/project (oral/written presentation)	3 - 5	min – max
	17.3	Active participation	Theoretical course Practical course	min – max 1-3 10 - 12
18.		g criteria	up to 59 points	5 (five) F
	(points	s / grade)	from 60 to 68 points	6 (six) E
			from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C

1		from 85 to 02 points	0 (ninc) D			
	_	from 85 to 92 points	9 (nine) B			
		from 93 to 100 points	10 (ten) A			
19.	Requirement for signature and taking the final exam	The student is required tactivities.	to actively follow all of the planned			
		To get signature in inde	<b>r assessment of knowledge:</b> x, the student is duty to obtain			
		minimum 10 points of practical lecture (6.0 points of attendance), 3 points of seminar work and 1 point of				
		theoretical attendance, t	1			
		Practical exam start in a	session.			
		To approach to the final	exam, oral, the student must obtain			
		minimum 60% knowled	ge of two partial tests and practical			
		exam.				
		The final exam goes in t	for examination in a examine sessia			
20.	Language of instruction	English				
21.	Method of monitoring the quality of teaching process	Attendance of students to in theoretical and practice	to classes and interactive participation cal lessons.			

22.	Textbooks						
		Mar	ndato	ry			
		1.	Che	neral and Organic emistry for dical students	Krstevska Marija, Alabakovska Sonja, Efremova Aaron Snezana, Labudovic Danica, Cekovska Svetlana	Skopje: Medical Faculty	2011
	22.1.	2.	Bio	chemistry	Dzhekova-Stojkova Sloboda, Korneti Petraki, Todorova Bojana, Trajkovska Snezana. 2 <sup>nd</sup> Ed	Skopje: Medical Faculty	2011
		3.		ipt of Medical Chemistry medical students	Krstevska Marija, Alabakovska Sonja, Efremova Aaron Snezana, Labudovic Danica, Cekovska Svetlana, DzhekovaStojkova Sloboda, Bosilkova Gordana	Skopje: Medical Faculty	2011
		Add	lition	al			
		1.		neral, Organic and chemistry	Katherine J Denniston, Joseph J Topping, and Robert L Caret	6 <sup>th</sup> Ed.	2011
	22.2.	2.	che	ected parts of mistry for the students Medical School	Zorana Vujovic	Medical Faculty, Belgrade, Serbia	2006
		3.	Org	anic chemistry	John McMurry	Skopje	2009
	<b>G 1</b> • 4	4.					
1.	Subject:			INFECTOLOGY			
2. 3.	Code Study Drov			MED-412			
<b>3.</b> 4.	Study Prog	gram	1:	General Medicine Ss Cyril and Methodius	University Medical L	Coulty Dom	ortmont
4.	(Unit, Institu Chair, Depa		nt)	of Infectology	University, Medical F	acuny, Dep	

5.	Degree of education (first and second cycles)	Integrated 6-year stu	ıdy					
6.	Study	Fourth (IV)/	7. Number of ECTS	7				
	year/semester	SeventhVII	credits					
8.	Responsible	Chair of the department –prof. d-r Irena Kondova Topuzovska						
	teacher	* the classes are carried out by all the professors at the						
		Department of Infect	tology					
9.	Preconditions	Criteria meet for enr	ollment of the seventh semest	ter				
10.	Goals of the study	program (competend	ces)					
	• The students wi	ill be able to learn and u	se the learned knowledge for rat	tional diagnosis,				
	contemporary t	reatment and prevention	of infectious diseases.					
		will learn to make a rational clinical judgment for recognizing infectious						
	diseases in diffe	erent, mostly expected s	ituations and prescribe a proper	treatment.				
11.	Brief content of the	e study program:						

	<ul> <li>Theoretical course:         <ul> <li>General Infectology: definition of the term infection and anti-infective immunity, introduction to the pathogenesis of infectious diseases, principles of diagnosis and treatment, anti-infective therapy (antibiotic therapy, antiviral therapy, anti-parasitic therapy, antifungal medications, principles of immune prophylaxis)</li> <li>Special Infectology: introduction of basic syndromes with infectious etiology, introduction of the specific bacterial, viral, parasitic, and fungal infections and prion infections, basic knowledge of infections in special hosts,</li> </ul> </li> </ul>							
	introduction to t nosocomial infe		ance	e of recognizing, treatment	and prevention of			
	Practical course							
12.		Methods of studying: Interactive lectures, seminars, practical trainings						
13.	Total available teaching hours	210 hours						
14.	Organization of the course			lectures and practical ac home individual learnin				
	Forms of teaching	15.1		Theoretical course	45 hours			
15.	activities	15.2		Practical course, Seminars	60 hours			
		16.1		Practice				
16.	Other forms of	16.2		Individual tasks				
	activities	16.3		Individual (home) learning	105 hours			
17.	Method of assessment				Scoring system			
	17.1	Testsmin-maxContinual assessment*points12 - 20*Continual assessment of knowledge (colloquia) - 1written testGeneral Infectology(for mark 10=19-20 points; for mark 9=17-18 points;for mark 8=15-16points; for mark 7=13-14 points; for mark 6=12 points						

Final	Final exam: final test + practical examination +oral
exam:	examinationmin-max1. Final test * points 9 - 152.2. Practical examination** points 9 - 153.3. Oral examination*** points 24 - 40
	* <b>Final test</b> – to assess students' knowledge in infectology- special Infectology (for mark 10=14,515 points; for mark 9=13-14 points; for mark 8=11,5- 12,5 points; for mark 7=10-11 points; for mark 6=99,5 points) ** <b>Practical examination</b> (according to a catalogue of skills): examination of the patients, diagnosis, differential diagnosis, therapy (for mark 10=14,5-15 points; for mark 9=13-14 points; for mark 8=11,5- 12,5 points; for mark 7=10-11 points; for mark 6=99,5 points) *** <b>Oral examination (integrated)-</b> 4 questions in which the integrated knowledge of the student is

	2	<ul> <li>checked on matters of understanding the subject of infectious diseases as a whole as well as the practical medical routine in infectious diseases (for mark 10=38-40 points); for mark 9=35-37 points); for mark 8=32-34 points); for mark 7=28-31 points); for mark 6=24-27 points))</li> <li>Students are obliged to score the predicted minimum of the projected points for each section of the exam so that the points can be transferred for the final exam; otherwise they will fail the test.</li> </ul>				
17.2	Seminar paper/project (oral/written presentation)	Seminar work points Min-max				
17.3	Active participation	Min-max Theoreticlectures*points1-2,5Practical lectures**points5-7,5* presence in the theoretical course51%-60%1 point61%-70%1,5 points71%-85%2 points86%- 100%2,5 points**practical coursepresence0.2 pointscolloquia0.3 points				
18.	Assessment of knowledge (points/scores)	Up to 59 points       5 (five) F         60 to 68 points       6 (six) E         69 to 76 points       7 (seven) D         77 to 84 points       8 (eight) C         85 to 92 points       9 (nine) B         93 to 100 points       10 (ten) A				

19.	Requirement for signature and taking the final exam	<ul> <li>Obligatory criteria:</li> <li>In order to get a professor's signature the students has to attend theoretic and practical studies, as well as seminars and to gain minimum points.</li> <li>In order to take the final exam the student has to pass the projected continuous assessments (colloquium in general infectology ). During the exams the students has to pass the previously failed Continuous assessments (colloquium in general infectology ) and then continue to the final exam.</li> <li>The grade/score for the entire exam is obtained according the table of grades and based on the sum of the points gained in all the activities, Continuous assessments and final exam.</li> </ul>
20.	Language of instruction	English
21.	Method of monitoring the quality of teaching process	Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.
22.	Literature	

	Obligator	y literat	ure						
		No.	Author	Title	Publisher	Year			
		1.	Jonathan Cohen, William J.	Infectology Volume 1 a		2012			
			Powderly Steven	Volume 2					
	22.1	2.	Dimitriev Dimitar,	Infectious	University	2012			
	22.1		Ivanovski Ljubor		"St Cyril and	1			
			Milenkovic Zvonko	/	Methodius"				
			Grunevska Violeta,		Faculty Of				
			Topuzovska Irena,		Medicine,				
			Stojkovska Snezana		Skopje				
1.	Subject			INTERNAL M MED 411	EDICINE				
2.		Code							
3.	Study Pro	Ū.		General Medicin					
4.		Institution (Unit, Institute, Chair, Department)			Ss Cyril and Methodius University, Medical Faculty, Department of Internal Medicine				
5.	Degree	Degree of education			Integrated 6-year study				
6.	(first or second cycle) Study year/semester			Firth (IV) / Seventh and eight (VII+ VIII)	7.Number of 21 credits				
8.	Responsi	ble teach	er	,	enadieva Stavrik MD l	PhD			
9.	Preconditi			Ų	for VII semester				
10.	<ul> <li>Preconditions</li> <li>The student will learn and conquer the skills within the rational diagnosis and modern treatment grounded on etiopathogenesis of diseases and postulates of clinical pharmacology</li> <li>The student will be able to assess and treat rationally the diseases of heart and blood vessels, lungs, endocrine glands, nephrological, hematological, gastroenterohepatological, rheumatological and toxicological diseases and disorders</li> <li>Contemporary clinical assessment will be based on rational diagnosis, especially on clinical examination, and later on target trials (laboratory)</li> <li>Contemporary rational treatment will be based on recent therapeutic knowledge and on evidence – based medicine.</li> </ul>								

11.	Brief content:						
	Theoretical course:						
	<ul> <li>diseases and disorders of cardiovascula</li> </ul>	ar system					
	<ul> <li>diseases and disorders of lungs</li> </ul>						
	<ul> <li>diseases and disorders of gastroentero</li> </ul>						
	<ul> <li>diseases and disorders of urinary syste</li> </ul>						
	<ul> <li>diseases and disorders of joints and connective tissues</li> </ul>						
	diseases and disorders of endocrine gla						
	diseases and disorders of hematologic						
	diseases and disorders of hematologic	system					
	Practical lessons:						
	• clinical skills and practical application	of the acquired theoretical knowledge.					
12.	Methods of studying:						
	•	d practical trainings, independent study by					
	using textbooks, seminars and practical teaching						
13.	Total available time:   355 classes						
14.	Organization of the course	355 classes - theoretical course, practical					
		course, seminars					

			195 classes - home individual learning15.1.Theoretical course160 classes				
15.		Forms of teaching activities		Theoretical course	160 classes		
			15.2.	Practical course, Seminars	195 classes		
16.	Other	forms of activities	16.1.	Practice			
			16.2.	Individual tasks			
			16.3.	Individual (home) learning	160 classes		
17.	Metho	d of assessment					
	17.1	Tests	They co combina and curr The stuc total 18 Final ex examina points (f points, f question for unde points ( 23 point student score for points fo Otherwi • The exa the final and thar	ous checking of knowledge (cover the all fields of Internal mean attions, depending on the group of the schedule. Idents from one colloquium can -32 points (from 4 colloquium am (practical + theoretical) <b>Practical exam</b> (according to attion of a patient, differential dia for 10 = 20 points, for 9 = 18 – for 7 = 14 – 15 points, for 6 = 12 <b>Theoretical exam</b> (integrative) and in detail, but integrative known erstanding the whole subject and for 10 = 26 – 28 points, for 9 = s, for 7 = 20 – 21 points, for 6 = is obligated to win a minimum or each part of the exam, to be all or final exam. se, the test is considered not pa <b>Complete final exam:</b> m is a combination of colloquia exam. First, the student is oblig to approache the final exam. In popula , he has no right to take the	dicine (8) in different which the student attend get $4.5 - 8$ points, and s). the catalogue of skills) – agnosis, therapy 13 – 20 19 points, for $8 = 16 - 17$ 3 points) 0 – 4 questions that are not owledge which is essential d medical practice 18 -28 24-25 points, for $8 = 22 - 18 - 19$ points). The of 49% of the predicted ble to be registered the ssed. a which are not passed and gated to pass the colloquia, f the student doesn't pass		

	17.2	Seminar paper/project (oral/written presentation)			min – max			
	17.3	Active participation		heoretical course ractical course	min – max 1-5 10-15			
18.	B. Grading criteria (points / grade)			up to 59 points from 60 to 68 points	5 (five) F 6 (six) E			
				from 69 to 76 points from 77 to 84 points from 85 to 92 points	7 (seven) D 8 (eight) C 9 (nine) B			
				from 93 to 100 points	10 (ten) A			
19.	Requirement for signature and taking the final exam			<ul> <li>The student is required to actively follow all of the planned activities.</li> <li>Conditional criteria for assessment of knowledge:</li> <li>In order to get a signature, the student should obtain minimum points in both theoretical and practical courses.</li> <li>In order to take the final exam, the student should obtain the minimum points in the continual assessments;</li> </ul>				
20.	Langu	age of instruction		If the student has not obtained the minimum point continual assessments, he/she will be obligated them before the final exam. Macedonian				

21.	Method of		0			udents to cla		eractiv	ve partic	cipation
	quality of t	eachir	ng process	in theoretics	al and practical lessons.					
22.	Textbooks	M								
			ndatory	<b>D</b> · · 1	e	A (1 ) C		2015	1	2015
		1.	Harrison's	_				2015 MaC	by fraw-	2015
			Internal M	edicine 19/1	Ľ	Dan Long		Hill	naw-	
						L. Kasper			ation	
						Jameson;	-	Luu	ation	
	22.1.					Loscalzo;	Stephen			
				~ ~		Hauser				0015
		2.	Goldman-C			Lee Goldr				2015
			Medicine, 2	25th Edition	1	(Author),				
						Schafer M	D			
		. 1	1 1							
	22.2.	Add	ditional						~ ~ ~	
1.	Subject					<b>ERNAL</b>	ME	DICL	NE-CL	INICAL
2.	Code					ACTICE				
					MED 611					
3.	Study Prog	ram			General Medicine				N 1' 1	
4.	Institution	++++- (	Their Depention	ant)	Ss Cyril and Methodius University, Medi Faculty, Department of Internal Medicine			Medical		
5.			Chair, Departm education	em)				mai ivi	eurcine	
J.	Degree (first or sec				me	grated 6-year	study			
6.	Study year		÷		Siv	(VI) /	7.Number	of	14	
0.	Study year	seme	5101		Elev	. ,		01	14	
						ve (XI+				
					XII)					
8.	Responsib	le tea	cher		Prof	f Dr Sonja G	enadieva St	avrik l	MD PhE	)
9.	Preconditio	ons			Pass	sed exam of ]	Internal Me	dicine		

10.	Student will acquire the skill of modern clinical assessment and treatment. Student will be able independently to make admission of a patient, to make urine analysis blood counts pretransfusion test with legal documentation insertion of urinary catheter rectal DRI (digital rectal investigation), rectoscopy ECG (technique and analysis), cardiopulmonary resuscitation interpretation of lungs rtg injections ( subcutaneous , intramuscular, intravenous ) will watch and assist in interventions such as: sternal puncture and smear, pleural puncture, abdominal puncture, insertion of gastric tube and gastric lavage, insertion of a central venous catheter, measerement of central venous pressure, gastroscopy , gastrolavage , tracheal intubation , artificial ventilation, peritoneal dialysis.
11.	<ul> <li>Brief content:</li> <li>Introduction to diagnostic and therapeutic procedures in the field of Internal Medicine</li> <li>Practice: 320 hours</li> <li>Clinical practice will be organized during 8 working weeks with full time of 8 hours The four turnuses will be organized during the XI and XII semester.</li> <li>Three days will be organized in the ambulances for family medicine.</li> <li>The practice will be organized in groups of 2-5 students on mentoring principle with professors and assistants.</li> <li>During the turnuses , the departments and mentors will be changed.</li> <li>Student's daily activities will be noticed in special " diary of activities " , which will be verified with the signature of the mentor.</li> <li>Practical lessons: <ul> <li>clinical skills and practical application of the acquired theoretical knowledge.</li> </ul> </li> </ul>
12.	Methods of studying:

	partici	participation in professional meetings in the clinic participation in morning rounds participation in daily work in the departments					
	participation in interventions in the field of Internal medicine Interactive teaching during lectures and practical trainings, independent study by using textbooks, seminars and practical teaching						
13.		available time:		0	320 hours		
14.	Organ	ization of the course			Practice 320 hour	S	
15.	Forms activit	of teaching ies	15.1.	Theoretic	cal course		
			15.2.	Practical Seminars	-		
16.	Other	forms of activities	16.1.	Practice		320	
			16.2.	Individual tasks			
			16.3.	Individua	al (home) learning		
17.	Metho	d of assessment					
	17.1	Practice					
			<ul> <li>Practice: 320 hours</li> <li>Clinical practice will be organized during 8 working full time of 8 hours</li> <li>The four turnuses will be organized during the XI and semester.</li> <li>Three days will be organized in the ambulances for famedicine.</li> <li>The practice will be organized in groups of 2-5 studementoring principle with professors and assistants.</li> <li>During the turnuses , the departments and mentors witchanged.</li> </ul>				
			Student's daily activities will be noticed in special " diary of activities ", which will be verified with the signature of the mentor.				

	17.2	Seminar paper/project (oral/written presentation) Active	min – max min – max
		participation	Theoretical course Practical course
18.		g criteria 5 / grade)	The student assessment is descriptive ( passed )
19.	Requirement for signature and taking the final exam		The student is required to actively follow all of the planned activities. <b>Conditional criteria for assessment of knowledge:</b> In order to get a signature, the student should obtain minimum points in both theoretical and practical courses. In order to take the final exam, the student should obtain the minimum points in the continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.
20.	Langu	age of instruction	English
21.		d of monitoring the of teaching process	Attendance of students to classes and interactive participation in theoretical and practical lessons.
22.	Textbo	ooks	

		Mandatory						
		1.	Harrison's Principles Internal Medicine 19/F		Anthony S. Fauci; Dan Longo; Dennis	2015 by McGraw-	2015	
	22.1.				L. Kasper; J. Larry Jameson; Joseph	Hill Education		
					Loscalzo; Stephen Hauser			
		2.	Goldman-Cecil Medicine, 25th Edition		Lee Goldman MD (Author), Andrew I. Schafer MD		2015	
	22.2.	Ado	ditional					
1.	Subject			GE	RIATRIC MEDICINE	E		
2.	Code			ME	ED 626			
3.	Study Program		General Medicine					
4.	Institution (Unit, Institute, Chair, Department)			Ss Cyril and Methodius University, Medical Faculty, Department of Internal Medicine				
5.	Degree of education (first or second cycle)			Integrated 6-year study				
6.	Study year/semester				(VI) / 7.Number venth (XI) credits	of 2		
8.	Responsi	ble te	acher	Pro	f Dr Sonja Genadieva S	tavrik MD Phl	)	
9.	Preconditi	ons		Co	mpleted course in Internation	al Medicine		

10.	Course objectives (competencies):								
	• Introduction to palliative medicine as an internist interdisciplinary science and its place in medical science								
	Introduction to the individual specifics of palliative medicine								
	• Introduction to the particularities of the therapeutic approach in patients palliative care and terminal patients								
	• Introduction to the ethical and legal aspects of palliative medicine								
	• Dealing with pain with pharmacological and non-pharmacological means (ways)								
1	Adopt communication skills and communication skills in special situations								
1.	Brief content Theoretical course:								
	• <b>Pulmonary disorders in the geriatric population</b> (Features in history, clinical examination and diagnostic procedures in elderly patients, diseases of the respiratory								
	<ul> <li>examination and diagnostic procedures in enderry patients , diseases of the respiratory system; Respiratory failure, pneumonia, chronic obstructive pulmonary disease, chronic pulmonary heart, pulmonary , tuberculosis, lung cancer)</li> <li>Diseases of the cardiovascular system in old age ( Diagnostic procedures in cardiology, electrocardiography, radiological, diagnosis of heart and lung, computerized tomography,</li> </ul>								
								magnetic resonance, dynamic electrocardiogram, echocardiography, phono-cardiography,	
	Methods of nuclear cardiology; Heart failure, chronic heart failure, acute cardiogenic								
	pulmonary edema; Inflammatory diseases of the valves - reumatic fever, mitral valve								
	disease, aortic valve disease; endocarditis; Degenerative diseases of the heart valves;								
	Coronary disease; prevention and treatment of atherosclerosis; Disorders of heart rhythm;								
	pulmonary thromboembolism; Heart disease in metabolic disorders; diseases aortic and								
	peripheral blood vessels; Arterial hypertension)								
	• Hematological diseases in older person- anemias, myelodysplastic syndrome, leukemias								
	(acute leukemia, chronic myeloid leukemia, chronic lymphatic leukemia), multiple								
	myeloma, platelet disorder, coagulation disorders (DIC hemophilia, thrombosis, thromboembolism)								
	<ul> <li>Oncological geriatric diseases (breast cancer, colon tumors)</li> </ul>								
	• Infectious diseases in the geniatric population (Acute inflammation of the respiratory								
	incentous discuses in the genuine population (neute initialization of the respiratory								
	system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent								
	system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent								
	system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent meningitis; Streptococcal infections; acute intestinal infections								
	<ul> <li>system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent meningitis; Streptococcal infections; acute intestinal infections</li> <li>Kidney disease in elderly - (primary and secondary glomerulopathy, tubulointerstitial</li> </ul>								
	<ul> <li>system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent meningitis; Streptococcal infections; acute intestinal infections</li> <li>Kidney disease in elderly - (primary and secondary glomerulopathy, tubulointerstitial disease, acute and chronic failure in kidneys, urinary tract infections)</li> </ul>								
	<ul> <li>system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent meningitis; Streptococcal infections; acute intestinal infections</li> <li>Kidney disease in elderly - (primary and secondary glomerulopathy, tubulointerstitial disease, acute and chronic failure in kidneys, urinary tract infections)</li> <li>Endocrine disorders in old age (Diabetes, Thyroid Disease gland; Bone disease,</li> </ul>								
	<ul> <li>system, viral hepatitis, herpes zoster, the Fever from unknown etiology; Purulent meningitis; Streptococcal infections; acute intestinal infections</li> <li>Kidney disease in elderly - (primary and secondary glomerulopathy, tubulointerstitial disease, acute and chronic failure in kidneys, urinary tract infections)</li> <li>Endocrine disorders in old age (Diabetes, Thyroid Disease gland; Bone disease, osteoporosis, osteomalacya; Hormone laboratory diagnostics)</li> </ul>								

Rehabilitation, Physical activity and exercise in geriatric population)

• **Diseases of gastroenterology system**, (Diseases of the oral cavity, acute GI conditions, diseases of the esophagus, gastric and duodenal diseases, diseases of the small bowel and colon, diseases in anorectal area, Hepato-biliary diseases, pancreatic diseases, tumors of the gastrointestinal tract)

• **Neurological disorders** (cerebrovascular stroke, epilepsy, syncope, pain syndrome, balance disorder, ataxia, extrapyramidal system diseases, dementia, and intracranial expansive processes, neuromuscular disorders in the geriatric population.)

• **Psychiatric disorders in the geriatric population** (neuroses, psychoses, Neurotic senile syndrome, senile depressive psychosis, senile dementia, treatment of mental disorders, ethics psycho-geriatric )

• **Psychology of Aging** (Psychological theory aging, aging and skills, social relationships in old age, streenje and health)

• **Changes in skin with age** (most common skin disease in old age - pruritus, erythroderma, action on drugs, reaction to light, hypostatic dermatitis, psoriasis; Skin infections in geriatric; The most common tumors)
		using textbooks, s	0 0		l practical trainings, l teaching	maepenaen	i sludy by
13.	Total a	available time:	e time: 60 classes				
4.	Organization of the course				<ul> <li>40 classes - theoretical course, practical course, seminars</li> <li>20 classes - home individual learning</li> </ul>		
15.	Forms of teaching activities		15.1.	Theoreti	cal course	30 classe	
			15.2.	Practical Seminar		10 class	es
16.	Other :	forms of activities	16.1.	Practice			
			16.2.	Individu	al tasks		
			16.3.	Individu	al (home) learning	20 classe	es
17.	Metho	d of assessment	- I				
			45505511	nent (the tes	Activity type		Points
							Min
				Theoreti	cal course (lectures) *		2
							-
				Pra	actical course**		28
					actical course** eminar papers		
				S			28
				S	eminar papers		28 /
				S	eminar papers nual assessment - 2		28 / /
			Points	S	eminar papers nual assessment - 2 Final exam	t:	28 / / 30
			* <b>theor</b> 519	S Contin for the actin retical cour % - 60% - 2	eminar papers nual assessment - 2 Final exam Total wities of the student se attendance ( lect point;		28 / / 30
			* <b>theor</b> 519 619	S Contin for the acti retical cour % - 60% - 2 % - 70% - 4	eminar papers nual assessment - 2 Final exam Total wities of the student se attendance ( lect point; point;		28 / / 30
			* <b>theor</b> 519 619 719	S Contin for the acti retical cour % - 60% - 2 % - 70% - 4	eminar papers nual assessment - 2 Final exam Total wities of the student se attendance ( lect point; points; points; 86%		28 / / 30

			clinical activities assignmen	ts for which the student receives points.
			Mentoring principle.	
			Presence: 4 points Activity (	(skills): 6 points
	17.2	Seminar		min – max
		paper/project		
		(oral/written		
		presentation)		
	17.3	Active participation		min – max
			Theoretical course	2
			Practical course	28
18.	Grading	g criteria (points	up to 59 points	5 (five) F
	/ grade)		from 60 to 68 points	6 (six) E
			from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C
			from 85 to 92 points	9 (nine) B
			from 93 to 100 points	10 (ten) A

19.	Requirement for signature and taking the final exam		activities. <b>Conditiona</b> In order to g	l crit get a s	quired to acti eria for asse signature, the	essment of e student sh	<b>knowl</b> ould of	edge:		
				C		he final exan	-		ld obta	in the
						in the contin	-		10 0010	
				-		not obtained			ints in t	he
					issess	ments, he/sh				
20.	Language of	f inst	ruction	Macedonian	1					
21.	Method of n			Attendance	of stu	idents to clas	sses and int	eractiv	e partic	ipation in
	quality of te	achir	ng process			ractical lesso			•	•
22.	Textbooks									
l		Mai	ndatory							
		1.	Harrison's P Internal Mec			Anthony S. Dan Longo; L. Kasper; J Jameson; Jo	Dennis . Larry	2015 McGr Hill Educa	aw-	2015
	22.1.					Loscalzo; Si Hauser	·	Lauer		
		2.	Goldman-Ce Medi Edition	cil cine, 25th		Lee Goldma (Author), A Schafer MD	ndrew I.			2015
	22.2.	Add	litional							
1.	Subject	Auc	mona		РА	LIATIVE N	IEDICINE	7.		
2.	Code					D 627		1		
3.	Study Prog	ram				neral Medici	ne			
4.	Institution		Chair, Departn	nent)						
5.	Degree of or second of	educa	ation (first	,		egrated 6-yea				
6.	Study year					(VI) / venth (XI)	7.Numbe credits	r of	2	
8.	Responsib	le tea	acher			f Dr Sonja G	enadieva S	tavrik	MD Ph	D
9.	Preconditio					npleted cour				
10.			objectives (con ction to palliati	· ·	as ar	internist int	erdisciplina	ary scie	ence and	l its

	place in medical science
•	Introduction to the individual specifics of palliative medicine
•	Introduction to the particularities of the therapeutic approach in patients palliative
	care and terminally ill patients
•	Introduction to the ethical and legal aspects of palliative medicine
•	Dealing with pain with pharmacological and non-pharmacological means
•	Adopt communication skills and communication skills in special situations

11.	Theor	etical course:					
	<ul> <li>Basics palliative medicine (manner of organizational structure, International development)</li> <li>Types and ways of organizing palliative care - outpatient, hospital, consulting</li> <li>Symptoms of chronic pain and handling with it- interdisciplinary approach</li> <li>Handling with Gastrointestinal symptoms (constipation, diarrhea, nausea, vomiting)</li> <li>Handling with Pulmonary symptoms- dyspnea, cough</li> <li>Handling with Neuropsychiatric symptoms, anorexia, cachexia</li> <li>Care for terminally ill</li> <li>Psychological and physiological aspects of palliative care</li> <li>Ethical and Legal Aspects of palliative medicine</li> <li>Teams for implementation of palliative care</li> <li>The student will acquire knowledge about the most common conditions in palliative care, ways for its implementation and organization. Recognition of terminal sick patient, most common indications for palliative care, recognition specifics. Models of communication and special situations of communication</li> </ul>						
12.	Metho	ods of studying:					
13. 14.		Interactive teachin using textbooks, s available time: ization of the course			d practical trainings, l teaching 60 classes 40 classes - theoret course, seminars 20 classes - home i	ical course	, practical
15.		of teaching	15.1.	Theoreti	cal course	30 classe	es
	activities 15.2. Practical course, 10 class Seminars					es	
16.	Other	forms of activities	16.1.	Practice			
			16.2.	Individu			
17		1.6	16.3.	Individu	al (home) learning	20 classe	es
17.	17.1	d of assessment Tests	actively	<u> </u>	gnature for the course in the activities, inc sts). Activity type		*
							Min
					tical course (lectures) *		2
					ractical course** Seminar papers		28 0
					tinual assessment - 2		0
					Final exam		30
					Total		60
			Points f	or the acti	vities of the student	:	
				etical cour 5 - 60% - 2	<b>se attendance ( lect</b> point;	ures)	
				6 - 70% - 4	•		
					points; 86%		
			- 10	0% - 8 po	ints;		
			** prac	tical cours	e: practice is carried	l out for 5 d	lays 6 working

	17.2	Seminar		which the stud mentoring prir	ent re ciple	*	ts	for in – max
		paper/pro (oral/writ presentat	tten					
	17.3	Active participa		Theoretical co Practical cours			m	in – max 2 28
18.		g criteria / grade)		from 60 from 60 from 77 from 77 f	up to 59 points from 60 to 68 points from 69 to 76 points from 77 to 84 points from 85 to 92 points			5 (five) F 6 (six) E (seven) D 8 (eight) C 9 (nine) B
19.	Requirement for signature and taking the final exam			activities. Conditional In order to points in bo In order to minimum p If the stude	t is re al cri get a oth th take t ooints nt has asses	teria for assessment of signature, the student secondical and practical the final exam, the student in the continual assess s not obtained the mini sments, he/she will be	f knowledge: should obtain courses. lent should ob ments; mum points in	minimum tain the 1 the
20.	Langua	ige of instr	ruction	Macedonia				
21.		d of monitor of teachin	•			udents to classes and in digeneration dependent of the de	nteractive part	icipation
22.	Textbo	oks	•	1		-		
		Mar 1.	ndatory Palliative casebasee		A	Neil MacDonald Doreen Oneschuk, Neil Hagen-	l, (2012 Oxford University Press, third edition)	- 2012
	22.1	. 2.	Goldman N Edition	-Cecil Iedicine, 25th		Lee Goldman MD (Author), Andrew I. Schafer MD		2015
		3.		's Principles of Medicine 19/E		Anthony S. Fauci; Dan Longo; Dennis L. Kasper; J. Larry Jameson; Joseph Loscalzo; Stephen Hauser	2015 by McGraw- Hill Education	2015
	22.2	. Add	litional				1	J
1.	Subject	t				RMATOVENEROLO	OGY	
2.	Code					D-414		
3.		Program				eral Medicine		
4.		Institute, C	Chair, Depa	rtment)	Facu	Cyril and Methodius Un alty, University Clinic		
5.	•	of education of ed	ion (first		Inte	grated 6-year study		

6.	Study year/semester			th (IV) / renth (VII)	7. Number of credits	5
8.	<b>Responsible teacher</b>		Ass	oc. Prof. Suz	zana Nikolovsk	a, PhD, MD
9.	Preconditions			lfieled condinester	tions of enrolle	ment in VIIth
<ul> <li>10. Teaching goals (competences) :</li> <li>The student will acquire knowledge about the basic concepts of strumorphological changes of the skin as well as diagnostic and theraped dermatovenereology</li> <li>The student will acquire knowledge about the most common and undiseases, as well as sexually transmitted infections</li> <li>The student will have the skills to recognize the most common and dermatovenerology and create diagnostic and rational therapeutic p</li> <li>The student will be aware of the importance of taking proper dermatovenerology</li> <li>The student will be aware of the importance of prevention and proridermatovenerology</li> </ul>						odalities in ermatology conditions in l. erological history,
	<ul> <li>Theoretical course:</li> <li>Structure and function of</li> <li>Treatment principals in a</li> <li>Infections and infestation</li> <li>Emergency conditions in</li> <li>Inflammatory skin disora</li> <li>Diseases of nail, hair and</li> <li>Reactive skin diseases</li> <li>Skin signs of systemic di</li> <li>Drug reactions</li> <li>Neoplasms</li> </ul> Practical lessons: Practicing the clinical skills knowledge on real patients	lermatove ns, STI n dermatol ders l pigmenta iseases	nerology ogy ation			ical
	knowledge on rear patients	•				
12.	Methods of studying: Interactive teaching during	lectures,		d practical tr	ainings, indepe	ndent study by
	Methods of studying: Interactive teaching during using textbooks, computer-	lectures,		•		ndent study by
13.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time:	lectures,		150 classes		
	Methods of studying: Interactive teaching during using textbooks, computer-	lectures,		150 classes 75 classes - course, sen	theoretical cou	urse, practical
13.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time:	lectures,	earning.	150 classes 75 classes - course, sen	theoretical cou	al learning
13. 14.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time: Organization of the course Forms of teaching	lectures, s	earning.	150 classes 75 classes - course, sen 75 classes - cal course course,	theoretical countrinars home individu 23 cl 40 cl	al learning
13. 14.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time: Organization of the course Forms of teaching	lectures, s assisted le	earning. Theoretic	150 classes 75 classes - course, sen 75 classes - cal course course,	theoretical countrinars home individu 23 cl 40 cl	al learning asses
13. 14. 15.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time: Organization of the course Forms of teaching activities	lectures, s         assisted le         15.1.         15.2.         16.1.	Theoretic Practical Seminars Practice	150 classes 75 classes - course, sen 75 classes - cal course course,	theoretical countrinars home individu 23 cl 40 cl	al learning asses
13. 14. 15.	Methods of studying: Interactive teaching during using textbooks, computer- Total available time: Organization of the course Forms of teaching activities	lectures, s assisted le 15.1. 15.2.	Theoretic Practical Seminars Practice Individua	150 classes 75 classes - course, sen 75 classes - cal course course,	theoretical countrinars home individu 23 cl 40 cl 12 cl	al learning asses asses asses

17.1	Tests	Continual assessment po		in – 18 - 3	max 0
		Two (2) <b>written tests</b> (MSQ) that cover all as dermatovenereology for which the curriculum foreseen for formative assessment of knowled	n is		
		Each test should be scored in the range 9-15 to passed.		sidere in – m	

		Final exam	Oral exam* Practical exam**	points: points:	21 - 35 12 - 20
			Oral exam* (integrative) - examine integrative knowle whole of the subject and me (for grade 10=33-35 points 8=27-29 points; for grade 7 points) Practical exam** – consis (for grade 10=10 points; for points; for grade 7=7 points The student is obliged to for each part of the exam considered unsuccessful. The grade in the final exa table, and on the basis of th activities.	- consists of 2 questions edge that matters for under edical practice in dermato ; for grade 9=30-32 point 7=24-26 points; for grade ts of 2 long cases r grade 9=9 points; for gr s; for grade 6=6 points) score a minimum of pre- n separately. Otherwise, m is given according to	erstanding the ovenerology s; for grade 6=21-23 rade 8=8 edicted points the exam is the grading
	17.2	Seminar paper/project (oral/written presentation)	1 - 5		min – max
	17.3	Active participation	Theoretical course Practical course		min – max 1-2 6 - 8
18.		ng criteria 5 / grade)	up to 59 points from 60 to 68 points from 69 to 76 points from 77 to 84 points from 85 to 92 points from 93 to 100 points		5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A
19.	-	rement for signature king the final exam	Conditional criteria In order to get a signatu minimum points in both seminars. In order to tak obtain the minimum poi (tests). If the student h	re, the student should obt a theoretical and practical ace the final exam, the stud ints in the two continual a as not obtained the minin ents, he/she will be obliga am.	cain courses, and dent should assessments num points in
20. 21.	Metho	age of instruction d of monitoring the v of teaching process	English Students' anonymous teachers and assistants.	evaluation of the cour	se as well as
22.	Textbo				

	1.	Klaus Wolf, Richard Allen	Fitzpatrick's Color	Mc	200	9
		Johnson	Atlas and Synopsis	Graw		
			of Clinical	Hill		
			Dermatology			
	2.	Ancevski A, Gocev G,	Dermatovenerology	Kultura	200	5
		Pavlova Lj, Petrova N		Skopje		
	Add	itional				
	1.	Sue Burg, Dinny	Oxford Handbook of	Oxford		2011
22.2.		Wallis	Medical	University	y	
22.2.			Dermatology	Press		
	2.	Christopher Griffiths	Rook's Text Book of	John V	Viley	2016
		Jonathan Barker, Tania	Dermatology	and Sons I	Ltd	

	Bleiker, Robert Chaln Daniel Creamer	rs,				
	3.					
	4.					
1.	Subject	MEDICAL PSYCHOLOGY AND				
		SOCIOLOGY				
2.	Code	MED 114				
3.	Study Program	General medicine				
4.	Organizing Institution (Unit,	UKIM-Faculty of Medicine				
	Institute, Chair, Department)	University Clinic of Psychiatry, Skopje, Belgradska b.b.				
		Department of Psychiatry and Medical				
		Psychology,				
5.	Educational degree (first or second cycle)	Integrated cycle				
6.	Study year /semester	first/first 7. Number of 5 credits				
8.	Responsible teacher	Prof. dr. Marija Raleva				
9.	Preconditions:	none				
10.	<ul> <li>(basic concepts, psychological p</li> <li>To enable the students to developatient and the practical applicat</li> <li>To provide skills and knowledge and treatment of patients</li> </ul>	sics of Medical Psychology and Medical Sociology: ocesses, psychological factors in health and illness) communication skills, establishing contact with the on of these skills for applying biopsychosocial approach to diagnosis for exploring social determinants of health and the				

11.	Contents of the study program:
	Theoretical course:
	Psychological processes across the life span
	<ul> <li>Consciousness and sleep – levels of awareness</li> </ul>
	• Senses and perception – the interpretation of sensory stimuli
	Attention – selection of information, planning
	• Cognitive development – the changes in the capacities of the individual as a function of age and experience frombirth to adulthood
	• Cognitive aspects of ageing – the changes as a function of age and experience during later life
	Socio-emotional relationship across the life span
	• Attachemnt
	<ul> <li>Learning – interaction with the environment, stable change in behaviour or understanding</li> </ul>
	• Memory – the cognitive processes of encoding, storing and retrieving information as a function of age
	• Language and speech
	• Development and personality structure, theories of personality development
	Psychological defense mechanisms and their function
	Psychological factors in health and illness
	Biological basis of behavior (genes and behavior)
	Mental health and mental illness
	<ul> <li>Psychological factors in health promotion and illness prevention</li> </ul>
	<ul> <li>Psychological interventions – interventions to change behaviour, modify risk, and improve outcomes</li> </ul>

	<ul> <li>Psychological proc states to disease en</li> <li>Psychological aspe</li> </ul>									
	<ul> <li>Psychological responses to illness</li> <li>Emotional, cognitive and behavioural responses to illness</li> <li>Coping with illness – adjusting behaviour or thoughts to reduce effects of an acute or chronic illness</li> <li>Psychological stress and trauma</li> <li>Death, dying and bereavement</li> <li>Burn out syndrome</li> <li>Psychological counseling</li> </ul>									
	<ul> <li>Social determinants of health and illness:</li> <li>Social norms, social biography, healthy lifestyles, self-care</li> <li>Social structure, social inequalities, social stress and coping</li> <li>Violence and health : ecological model, risk and protective factors</li> <li>Social change and the meaning of gender, sexuality, suicide, mental illness, disability, death</li> </ul>									
	<ul> <li>Practical course:</li> <li>Human communication and communication skills training <ul> <li>Meaning of communication</li> <li>Interaction doctor-patient: compliance, health education and difficulties in communication</li> <li>Leadership and teamwork</li> <li>Social processes shaping professional behavior Psychological response to illness</li> <li>Response of the patient to the illness</li> <li>Response of an ill child</li> <li>Patient with acute illness</li> <li>Patient with chronic illness</li> <li>Psychological profile of the personality of the patient</li> </ul> </li> </ul>									
12.	Methods of studying: In	teractive	e lectures	, tutorials / wor	kshops, seminars					
13.	Total no. of hours:			hours 75						
14.	Distribution of the avail	able tin								
15.	Type of educational	15.1	Lectures course	s-theoretical	38 hours					
	activity	15.2 F		ls (laboratory, , s, team	Practicals 28 hours Seminars: 10 hours					
16.	Other types of	16.1		assignments	hours					
	activities	16.2	Individu		hours					
		16.3	Home st	udying	hours					
17.	Assessment of knowledg points	ge:								
	17.1 Tests		3 Co.	ntinuous tests Test 1 Test 2	minmax. total points 22 – 40 points 22 – 40 points					

					Oral exam	44-80 points				
	17.2		Seminar work/project (presentation: written and oral)		Seminar works	5-10 points	mi	nmax.		
	17.3 Active participation				min	max.				
			1 1		Theoretical course			s 1-3		
					Practical course		point			
18.	Know	ledge as	ssessment	u	p to 59 points		-	(five) F		
	criteri				0 to 68 points			5(six) E		
	(poin	ts/grade	;)		9 to 76 points			even) D		
					7 to 84 points			eight) C		
					5 to 92 points			(nine) B		
					to 100 points			(ten) A		
19.	Criter	ia for ol	otaining a		ional criteria for as	sessment of kn		< /		
			taking the		a signature the studen			0		
	final e				ical as well as practic					
					ous knowledge asses					
					may directly attend t		-	-		
					precondition to atter					
				Student	ts who have passed be	oth tests are no	ot attei	nding		
				the fina	l exam. Student who	haven't passed	d the f	irst test		
				or have	or haven't attended the first test are obliged to attend the					
				final ex	inal exam. Assessment of the overall performance is					
				obtaine	btained based on the sum of points from overall					
				activitie	es, including the tests	or the final example.	am			
20.	Langu	age of t	the course	English	1					
21.	Metho	od for ev	valuation of	Anonyi	mous student's evalua	ation of the sub	ject, t	eachers		
	the qu	ality of	education	and col	llaborators involved in the educational activities					
22.	Litera	ture								
		Manda	atory textboo	ks		-				
			Autho	or	Title	Publisher	•	Year		
		1	Chadlovski		Medical	Prosvetno		2004		
			G, Filipovs	ska	Psychology	Delo,				
			A, Belevs	ska		Skopje				
			D.							
		2			Authorised lectures					
		3			Practicum	In preparation	1			
	22.1				of exercises					
					in Medical					
					Psychology and					
					Sociology					
		4	Branislav		Sociology of Health	-	of	2010		
			Sarkanjac		and Illness	Philosophy,				
		-	Stefan Kost	tovsk1		Skopje				
		5								
		6								
		7								
	22.2	Additi	ional literatur			<b></b>		¥7		
			Autho	or	Title	Publisher		Year		
1.	Subje	ct			OCCUPATIO	NAL MEDIC	INE			

2.	Code	MED-526
3.	Study Program	General medicine

4.	Organizing Institution (Unit, Institute,	UKIM-Faculty of Medicine				
5.	Chair, Department) Educational degree (first or second	Cathedra of Occupational Medicine Integrated cycle				
6.	cycle) Study year/semester	Fifth (V) year / Tenth (X) semester				
7.	Број на ЕКТС кредити	2				
8.	Responsible teacher	Prof. Dr Jovanka Karadzinska Bislimovska, Head of Chair * the education process is performed by all members of the Cathedra				
9.	Preconditions for starting the subject	Passed first part of the professional exam Completed criteria for VII semester				
10. 11.	principles, and practice of health and w	ompetencies): basic principles in occupational medicine,				
11.	Contents of the study program: Theoretical course:					
	<ul> <li>Physiology and psychology of work;</li> <li>Ergonomics, Ecology of work and working environment's surveillance</li> <li>Physical hazards in working environment and health's effects;</li> <li>Chemical hazards in working environment and health's effects;</li> <li>Psychosocial factors at work and health's effects;</li> <li>Biological hazards in working environment and health's effects</li> <li>Occupational diseases, work-related diseases and impairments of selected organs and systems</li> <li>Preventive measures, Preventive strategy</li> </ul>					
	Practical course:					
	<ul> <li>Practical course:</li> <li>Microclimate in working environment; workplace analysis;</li> <li>Noise in working environment and hearing assessment;</li> <li>Ionizing radiation, personal dosimeters, safety measures;</li> <li>Lighting in working environment and sight assessment;</li> <li>Air pollution in working environment;</li> <li>Functional capacity assessment: cardio-respiratory system, anthropometry;</li> <li>Preventive medical examinations;</li> <li>Occupational diseases (case reports)</li> <li>Work-related-diseases (case reports)</li> <li>Pneumoconiosis and RTG classification-interpretation;</li> <li>Methods and procedures in work ability assessment-practical work;</li> <li>Specific occupational risks in exposed workers in different sectors and industries</li> <li>Workers' Preparedness and Response to disasters</li> <li>Analysis of research data and scientific publications in the field of occupational medicine</li> </ul>					

12.	Methods of learning: Lectures with intera Poster preparation and presentation	ctive approach; Practical work, Seminars,
13.	Total available amount of learning hours	60 hours
14.	Distribution of the available learning time	45 hours lectures, practical work,
		seminars, project tasks

	15 hours home learning						
15.	Types activit	of educational ties	15.1.		ectures-theoretical	24 hours	
			15.2.	Practical work (laboratory, clinical), seminars		Practical work: 16 hours Seminars: 2 hours	
16.	Other	types of activities	16.1.		oject tasks	3 hours	
		J1	16.2.		dividual tasks		
			16.3.	Н	ome learning	15 hours	
17.	Types	of knowledge asses			6		
	17.1	Tests			Continuous tests	minmax.	
					1 written test points Physiology and psyc Ergonomics, Workp ecological monitorin work-related disease	chology of work, blace risk assessment and ng, Occupational diseases, es and injuries at work, working environment	
					environment and he toxicology, metals, compounds ** Oral exam (integ chemical, biological workplace hazards,	nemical factors of working alth's effects, occupational gases, pesticides, organic rative) including physical, l, and psychosocial occupational diseases, and cted organs and systems,	
					0	for the final exam.	

17.2	Seminar work/project (presentation: written/oral)	Project activity (part of projects	min max. ractical work) 2-5
17.3	Active participation	Theoretical course * Practical course **	min max. 2-5 12-20

18.	Knowledge assessment	* 4 A 6 A 4 T e	<ul> <li>* Attendance at theoretical lectures 51%-60% 2 points 61%-70% 3 points 71%-85% 4 points 86%- 100% 5 points</li> <li>** Practical course (4 exercises with dur 4 hours each - each exercise with 2 poin Attendance at practical course - exercise 6-8 points</li> <li>Active participation in exercices: 4-7 points</li> <li>The student can be absent just once (one exercise).</li> </ul>		
	criteria:		68 points	6 (six) E	
	(points/grade)	69 to	76 points	7 (seven) D	
		77 to	84 points	8 (eight) C	
	-		92 points	9 (nine) B	
			100 points	10 (ten) A	
19.	Criteria for obtaining a signature and taking the final exam	attend theo score mining The student the continue Additional assessment The grade rating table	In order to obtain a signature, the student is required to attend theoretical, practical courses and seminars and to score minimum points. The student can take the final exam if he/she has passed the continuous tests with minimum points; Additionally, he/she has to pass the continuous assessments, and then can take the complete final exam. The grade for the subject is formed according to the rating table, based on the sum of the points from all the activities, the continuous testing and the final exam.		
20.	Language of the course	English			
21.	Method for evaluation of t	- J			
	quality of education	and collabo	orators invo	olved in the educational activities	
22.	Literature	.1 1			
	22.1. Mandatory tex	tbooks			

	Bislimovska Karadzinska J, Minov J, Risteska- Kuc S, Mijakoski D, Stoleski S.	Occupational Medicine	University "Sts. Cyril and Methodius", Skopje	2011
2	. Stikova E.	Occupational Medicine	Faculty of Medicine, Skopje	2012
3	. William N Rom; Steven	Environmental and occupational medicine	Wolters Kluwer/Lippincott Williams & Wilkins, Philadelphia, USA	2007

			Markowitz; Book			UCLA Colum Univer		
		Ad	ditional literature					
		1.	Robert B.PublicWallace ed,andMaxeyRosenauLastPreverMedic			OEM Public Denve New C	ation,	2008
				-	it: Springer, rd University, n,USA	2012		
1.	Subject				MEDICAI	ETHIC		
1.	Subject				MEDICAL ETHICS AND DEONTOLOGY			
2.	Code				MED-126			
3.	StudyPro	gran	1		General me	dicine		
4.	0	Organizing Institution ( Unit, Institute, Chair, Department)		te,	UKIM-Faculty of Medicine Institute of forensic medicine, criminalistics and medical deontology Cathedra (Chair) of Medical deontology			
5.	Education	nal d	egree (first or second c	ycle)	Integrated cycle			
6.	Studyyear/semester			First/ II	7.	Number of credits	2	
8.	Responsible teacher		Head teach	er Prof. d	l-r. Zdravko Cha	ıkar		
				*the teaching is performed by all professors of the Chair of medical deontology			ofessors	
9.	Precondi	ions	:		/			

10.	<ul> <li>Teaching goals of the study program (competencies):</li> <li>adoption of the historical basis for the development of medical ethics and deontology</li> <li>adoption of the most important elements of medical ethics</li> <li>adoption of the rights, in particular the duties of health workers in terms of patients and their relatives and other representatives</li> <li>introduction to proper treatment in their daily practice trough examples</li> <li>interactive learning, debate and seminar papers as tools for easier adoption of matter and free thinking on certain ethical issues</li> </ul>
11.	<ul> <li>Contents of the study program: Theoretical course: <ul> <li>Introduction to the general principles of ethics as a philosophical science</li> <li>Introduction to ethical principles in different historical eras</li> <li>Introduction to bioethics</li> <li>Known philosophical teachings and philosophers that interface with medical ethics</li> <li>General principles of medical ethics</li> <li>Respect and equal treatment</li> <li>Communication and consent (informed consent)</li> <li>Presumed consent</li> <li>Decisions on behalf of patients who are unable to individually give consent, the notion of representation, participation of such patients to the moment of their end capabilities of understanding</li> </ul> </li> </ul>

	<ul> <li>Medical secret</li> <li>Beginning of life, ethical problems in biological assisted fertilization (BAF)</li> <li>End of life, ethical problems of euthanasia</li> <li>Ethical tenets of behavior among health workers</li> <li>Ethical tenets of behavior among health workers and patients</li> <li>Ethical tenets of behavior among health workers and relatives of patients</li> <li>Transplant and ethical dilemmas, especially in situations of possible cadaveric transplants</li> <li>Medical error and ethical problems</li> <li>Codes of medical ethics and deontology</li> <li>Most important conventions and declarations, particularly after 1948 that basically have the Universal Declaration of Human Rights by the UN</li> </ul>								
	deontology.								
12.	Metho	ods of studying: Inte	ractive	teaching, c	lebate and sem	inar papers			
13.	Totalno. ofhours:				60 hours				
14.	Distri	bution of the availab	ole time		30 hours lectures-theoretical course				
			1	30 hours home studying					
15.		of educational	15.1	Lectures-theoretical		30 hours			
	activit	У	1 7 9	course					
			15.2	Practical		/			
					laboratory,				
				team wo	seminars,				
16.	Other	types of activities	16.1		ssignments				
10.	ould	cypes of activities	16.2	Individu		/			
			16.3	Home st		30 hours			
17.	Assess	ment of knowledge:			, ,	1			
	17.1	Tests		Perio	dic evaluation	min. 24 – max. 40			

		Final exam		Written exam min. 24 – ma				
	17.2	Seminar work/proje (presentation: writte oral)		Seminar worl min. 6 – max				
	17.3	Active participation	1	min. 6 – max *Presence on 51-60% - 61-70% - 71-80% - 81-90% -	course points . 10 theoretical course 6 points 7 points 8 points 9 points 10 points			
18.	criteria		up to 59 p	points		5	(five)	F
	(points	s/grade)	6	60 to 68 points		6	(six)	Е
			6	59 to 76 points		7	(seven)	D
			7	7 to 84 points		8	(eight)	С
			8	35 to 92 points		9	(nine)	В
			93	to 100 points		10	(ten)	А

19.		ire and t	taining a aking the	To get and se In ord predict numbe session then aj The fi based	tional criteria for asse a signature, the studer minars and gain a mini- ler to access the final ted continuous check of er of points on the p n, the student should fin pproach the final exam. nal grade is formed a on the sum of points s, preliminary exam and	at should attend theore mum score. I exam student shou or to win at least 30% preliminary exam. In rst pass the preliminar according to the table s from all activities,	etical classes Id pass the of the total the exam y exam and e of grades
20.	Langu	age of th	ne course	Englis	h		
21.	Metho	d for eva	aluation of ducation	Anony	mous student's evaluat	<b>.</b>	chers and
22.	Literat	ure					
	22.1	Manda 1	Author Author Wendy A Ro Annette Braunack - M	r ogers	Title Practical Ethics for General Practice	Publisher Oxford University Press	Year 2009

		2	Prof. d-r. Karposh Boshkoski		ical ethics and tology	OZ Dizajn, Sko	pje	2007
		3		medi	ual of ethics for ical doctors , translation	Macedonian Medical Association, Sk	opje	2005
		Additi	onal literature	1		1		
			Author		Title	Publisher		Year
	22.2	1	Prof. d-r. Zdravko Chakar	Decl	ection of arations, ventions, Codes laws			
	~							
1.	Subjec	t			NEUROLOGY			
2.	Code				MED 111			
3.	-	Program	L		General Medicir		24	1. 1
4.	Institut (Unit,		, Chair, Department)		Ss Cyril and Me Faculty, Clinic o	thodius University of Neurology	y, Mec	ncal
5.	Degree (first o	e of r second	education l cycle)		Integrated 6-yea	r study		
6.	Study	year/sen	nester		Forth (IV)/VII	7.Number of credits	9	
8.	Respo	nsible te	eacher		Prof. Dijana Nik	odijevic, PhD, M	D	
9.	Precon				Fullfilled condit	ion for VII semes	ter	
10.	• ]	Teaching	goals:					

•	Introduction to neurological symptoms and signs
•	Introduction to neurological diseases
•	Introduction to diagnostic methods and procedures used for the diagnosis of neurological diseases
•	Introduction to management of neurological diseases
•	Introduction in pharmacological and non-pharmacological treatment of neurological diseases
•	The student to learn and master skills in the frame of rational diagnosis and contemporary treatment based on etiology and pathogenesis of the diseases and postulates of clinical pharmacology
•	The student to be able to rationally clinically judge and treat disease of the nervous system
•	Contemporary clinical judgement will be based according to the rational diagnosis, especially neurologic examination, and later on the special investigations (laboratory, neurophysiologic, morphologic)
•	Contemporary rational treatment will be based on the latest therapeutic knowledge and evidence based medicine

11.	Brief c					
	Theore	etical course:				
	•			mining dist	urbances and disease	es of the central and
		peripheral nervous	•	1 1 1		1 / 1 1 1
	•	of the central and p				disturbances and diseases
	•	•	-	•		peripheral nervous system
		Practical lessons:	turbances	and disease	is of the central and j	periprierar ner vous system
	•		rological s	symtoms ar	nd neurological signs	
	•				gical symptoms and s	
	•	Learning clinical sl				-
	•	practical applicatio	n of the ac	equired the	oretical knowledge	
12.		ds of studying:				
					l trainings, independe	
						eases, practical exercises nd signs, computerassisted
	learnin		al uiscases	s with ficul	ological symptoms a	na signs, computerassistea
13.		vailable time:			270 classes	
14.	Organi	zation of the course			90 classes - theoret	ical course, practical
	C				course, seminars	
			1			individual learning
15.		of teaching	15.1.	Theoreti	cal course	30 classes
	activiti	es	15.0	Due of a st		(0.1
			15.2.	Practical Seminar		60 classes
16.	Other f	forms of activities	16.1.	Practice	,	
10.	Other I	orms of activities	16.2.	Individu	al tasks	
			16.3.		al (home) learning	180 classes
17.	Metho	d of assessment	10.01	111011100	ar (1101110) 10011111g	
	17.1	Tests				min – max
			Continu	al assessme	ent – test	15-25
			Final examination		test + practical exar	nination +oral
				Final test:		15-25 points
					xamination	20-30 points
			6.	Oral exam	ination: integrative k	mowledge of the whole
				material le	arnt in Neurology 2	0-45 points
				The mode	in the final arem	is given according to the
				-		is given according to the sum of points obtained in
			graun	ing table, al	iu on the basis of the	sum or points obtained III

			all of the activities.	
	17.2	Seminar paper/project (oral/written presentation)		min – max 1 - 2
	17.3	Active participation	Theoretical course Practical course Completed textbook	min – max 1-2 4 - 6 mandatory
18.		ng criteria s / grade)	up to 59 points from 60 to 68 points from 69 to 76 points	5 (five) F 6 (six) E 7 (seven) D
			from 77 to 84 pointsfrom 85 to 92 pointsfrom 93 to 100 points	8 (eight) C 9 (nine) B 10 (ten) A

19.	Requirement and taking t			activities Condition In order to points in a semina In order to minimum the stude	to get a both th r papers to take n points ent has r	the final exam, the stude s in the test during continn not obtained the minimum	knowledge: hould obtain m ourses, and to ant should obta hual assessmer m points in the	inimum present in the its; If
						sments, he/she will be of final exam.	ongated to pas	00
20.	Language o	of inst	ruction	English				
21.	Method of I					tudents to classes and int	eractive partic	pation
22.	quality of te Textbooks	eachir	ig process	in theore	ucal an	d practical lessons.		
<i>LL</i> .	TEALUOUKS	Ma	ndatory					
	22.1.	1.	Principles of	neurology	7	Adams and Victor's	Allan H. Ropper, Martin A. Samuels, Joshua Klein	2014
		Add	litional			1	r	
	22.2.	1.	Clinical Neur	rology		Roger S, Aminof M, Gringerb D	Mc Graw- Hill Companies Inc.	2009
		2.	Neurology in practice	n clinical		Walter Bradley, Robert Daroff Gerald Fenichel C. David Marsden	Butterworth- Heinemann	1996
1.	Subject		•		MICI	ROBIOLOGY AND PA	RASITOLO	GY 1
2.	Code				MED			
3.	Study Prog					al Medicine		
4.			itution ( Unit, Department)			1-Faculty of Medicine dra of Microbiology and	Parasitology	
5.			gree (first or se			rated cycle		

6.	Study year/semester	II year / IV semester	4	Number of EKTS credits	4
8.	Responsible teacher	0	ina Cek onducte		
9.	Preconditions:	Completed co	urse in	Medical Microbiolo	ogy 1

10.	Teaching goals of the stud	y progr	am (comp	etencies):	
	<ul> <li>morphology and physiology</li> <li>Get to know the putual associations, includi</li> <li>To study the genetia</li> <li>To gain insights in understanding of the pathog</li> <li>To be able to succes infectious conditions;</li> <li>To explore susception</li> </ul>	to enable ge abou 7; prevalen ng the n cs of bac nto the f genesis o essfully a tibility t	ble student at different ce of mic ormal micr oteria; factors of f infection and accura testing me	nt types of n croorganisms in roflora of the ho virulence of n s they cause; tely setting mid thotds of the	nicro-organisms; to study their n different ecosystems and their ost; nicroorganisms and to widen the crobiological diagnosis of various causative pathogens, which also important in their further medical
11.	Content of the study program Theoretical course:	ram:			
	<ul> <li>Introduction to Microbiolo</li> <li>Morphology and structure</li> <li>Physiology of the microor</li> <li>Genetics of microorganism</li> <li>Effect of physical and che</li> <li>Distribution of microorgan</li> <li>Pathogenicity of microorg</li> <li>Selected host of pathogens</li> <li>Basic principles of microb</li> <li>Practical classes:</li> <li>Purpose and method of op</li> <li>Microscopic examination</li> <li>Isolation and cultivation o</li> </ul>	of micro ganisms ns; mical ag nisms an anisms a anisms a ; iologica eration c of microo f microo	; d their intend and pathog l diagnosis of microbio o-organism organisms;	croorganisms; eractions; enesis of infect s blogical laborates;	ories;
	<ul> <li>Examination of the bioche</li> <li>Sterilization and disinfection</li> </ul>		ctivity of m	nicro-organisms	;
	<ul> <li>Application of serological</li> </ul>	reaction			s;
	<ul><li>Techniques to investigate</li><li>Proper sampling, transport</li></ul>				microbiological examination;
12.	Methods of studying: Interactive teaching, pract	tical cou	ırse, semir	nars	
13.	Total number of hours:			120 hours	
14.	Distribution of available t				
15.	Type of educational activity	15.1	Lectures course	-theoretical	30 hours teaching
		15.2	clinical), seminars team wo	, rk	30 hours practical course/seminars
		16.1	Home stu	udy	60 hours

17.	Assessment of knowledge:	points

	17.1	Tests			1. Continuous tests ✦ Selected parts from	om theoretical microb	
					2. Continuous test fr plus theoretical second		12 - 20 (first half)
						points	18 - 30
		Final e	exam		Oral part	A	min max. 21 - 34
	17.2		ar work/proje ntation: writte		Seminar work	n points	nin. – max. 0 - 3
	17.3	,	participation				nin max.
					Theoretical course	points	1 - 3
					Practical course	points	8-10
					Attendance at theore 51% - 60% = 1 poin 61% - 91% = 2 poin 91% - 100% = 3 poin	nt nts	
18.	Know	ledge			Practical course (24) to 59 points	practical course of 31	hours) 5 (five) F
		ment cri	iteria:	from	60 to 68 points		6 (six) E
	(points	s/grade)			69 to 76 points	-	7 (seven) D
					77 to 84 points		8 (eight) C
					85 to 92 points 3 to 100 points		9 (nine) B 10 (ten) A
19.	Criter	ia for o	btaining a		ional criteria for asses	sment of knowledge	
			taking the			U	
	final e	xam			edge assessment criter		c
					udents need 70% from a coretical and practice we		
				the	eir attendance (sign doc	ument).	
					order to take the final e		
					nimum of 60% of the ty the minimum passing sco		
					% out of the total points		nation is
					r		
20.	_	_	he course	English			
21.			aluation of	-	nous evaluation by st	•	ct, teaching
22.	the qu Literat	-	education	staff, af	nd associates participati	ng in the teaching.	
<i>LL</i> .	Literal	1	tory literatur	e			
		No.	Auth	1	Title	Publisher	Year
		1	Jawetz E,	Melnik			21 th
			Il, Adelbe	erg EA.	Medical Microbiology	7	ed.,
							2004
	22.1					-	<u>17-т</u> h
	22,1		Grinvu	d D.	Medical Microbiology	7	edition,
			Crim, u				2006
		2	Nikola Pa and a		General Microbiology	University "Ss. Cyril and Methodius"	2011
						Medical faculty	

		3	Milena Petrovska and ass.	Practical Microl	oiology	University "Ss. Cyril and Methodius" Medical faculty	5 th ed., 2010
1.	Subjec	rt		MICROBI	DOGY	AND PARASITO	LOGY 2
2.	Code			MED-312			
3.		Program	n	General Me	licine		
4.	•	0	stitution ( Unit,	UKIM-Facu		edicine	
т.			ir, Department)		•	ology and Parasitolo	σν
5.			egree (first or second			ology and I alusitolo	<u>6J</u>
6.	-	year/sei	nester	III year / V semester	5.	Number of EKTS credits	4
8.	Respo	nsible te	eacher		klina Cel conducte		
9.	Preco	nditions		Completed	ourse in	Medical Microbiolo	ogy 2
10.			ives (competencies):	completed	ourse m		<i>557</i>
	• Solid • The r	knowle	knowledge of medica dge of important medic knowledge about me knowledge specific k	cal viruses; dical important fu	ngi;	rtant parasites.	
11.	• Solid • The r • More	knowle necessary specific e conter	dge of important medie y knowledge about me y knowledge specific k	cal viruses; dical important fu	ngi;	rtant parasites.	
11.	Solid     The r     More     Course     Theory	knowle necessary specific e conter	dge of important medie y knowledge about me knowledge specific k t:	cal viruses; dical important fu	ngi;	rtant parasites.	
11.	Solid     The r     More     Course     Theory	knowle necessary specific e conter y: al bacte Classif Gram Intrace	dge of important medie y knowledge about me knowledge specific k t:	cal viruses; dical important fu nowledge of medi portant bacteria egative cocci	ngi;	rtant parasites.	
11.	<ul> <li>Solid</li> <li>The r</li> <li>More</li> <li>Course</li> <li>Theory</li> <li>Medic</li> <li>.</li> <li< th=""><th>knowle necessary specific e conter y: al bacte Classif Gram Intrace</th><th>dge of important media y knowledge about me knowledge specific k t: riology fication of medical imp positive cocci• Gram n positive bacilli • Gram llular bacteria bacteria</th><th>cal viruses; dical important fu nowledge of medi portant bacteria egative cocci</th><th>ngi;</th><th>rtant parasites.</th><th></th></li<></ul>	knowle necessary specific e conter y: al bacte Classif Gram Intrace	dge of important media y knowledge about me knowledge specific k t: riology fication of medical imp positive cocci• Gram n positive bacilli • Gram llular bacteria bacteria	cal viruses; dical important fu nowledge of medi portant bacteria egative cocci	ngi;	rtant parasites.	
11.	<ul> <li>Solid</li> <li>The r</li> <li>More</li> <li>Course</li> <li>Theory</li> <li>Medic</li> <li>.</li> <li>.</li> <li>Medic</li> <li>.</li> <li>.<th>knowle hecessary specific e conter y: al bacte Classif Gram Intrace Spiral al virolo Classif RNA v DNA v al myco Trigge</th><th>dge of important media y knowledge about me knowledge specific k t: riology fication of medical impositive cocci• Gram n positive bacilli • Gram llular bacteria bacteria <b>Pgy</b> fication and nomenclat viruses</th><th>cal viruses; dical important fu nowledge of medi oortant bacteria egative cocci negative bacilli ure of viruses</th><th>ngi;</th><th>rtant parasites.</th><th></th></li></ul>	knowle hecessary specific e conter y: al bacte Classif Gram Intrace Spiral al virolo Classif RNA v DNA v al myco Trigge	dge of important media y knowledge about me knowledge specific k t: riology fication of medical impositive cocci• Gram n positive bacilli • Gram llular bacteria bacteria <b>Pgy</b> fication and nomenclat viruses	cal viruses; dical important fu nowledge of medi oortant bacteria egative cocci negative bacilli ure of viruses	ngi;	rtant parasites.	
11.	<ul> <li>Solid</li> <li>The r</li> <li>More</li> <li>Course</li> <li>Theory</li> <li>Medic</li> <li>.</li> <li>.</li> <li>Medic</li> <li>.</li> <li>.</li> <li>Medic</li> <li>.</li> <li>.&lt;</li></ul>	knowle hecessary specific e conter y: al bacte Classif Gram Intrace Spiral al virolo Classif RNA v DNA v al myco Trigge	dge of important media y knowledge about me knowledge specific k <b>it:</b> <b>riology</b> fication of medical impositive cocci• Gram n positive bacilli • Gram llular bacteria bacteria <b>ogy</b> fication and nomenclat viruses <b>logy</b> rs superficial mycoses rs systemic mycoses	cal viruses; dical important fu nowledge of medi oortant bacteria egative cocci negative bacilli ure of viruses	ngi;	rtant parasites.	
11.	<ul> <li>Solid</li> <li>The r</li> <li>More</li> <li>Course</li> <li>Theory</li> <li>Medic</li> <li>.</li> <li>.</li> <li>Medic</li> <li>.</li> <li>.</li> <li>Medic</li> <li>.</li> <li>.&lt;</li></ul>	knowle hecessary specific e conter y: al bacte Classif Gram Intrace Spiral al virolo Classif RNA v DNA v al myco Trigge al Paras Medica	dge of important media y knowledge about me knowledge specific k <b>it:</b> <b>riology</b> fication of medical impositive cocci• Gram n positive bacilli • Gram llular bacteria bacteria <b>ogy</b> fication and nomenclat viruses <b>logy</b> rs superficial mycoses rs systemic mycoses	cal viruses; dical important fu nowledge of medi portant bacteria egative cocci negative bacilli ure of viruses	ngi;	rtant parasites.	

	t systems								
	Practi	cal classes:							
	<ul> <li>Microbiological diagnosis of infections caused by pyogenic cocci;</li> <li>Microbiological diagnosis of infections involving the respiratory tract;</li> <li>Microbiological diagnosis of infections involving the urogenital tract;</li> <li>Microbiological diagnosis of infections involving the gastrointestinal tract;</li> </ul>								
	<ul><li>Micr</li><li>Micr</li><li>Micr</li></ul>	obiological diagnosis obiological diagnosis obiological diagnosis obiological diagnosis oratory diagnosis of in	of infect of intra of anae	ctions invol -hospital in robic infec	lving the centra ifections; tions;	al nervous system;			
		ods of studying: active teaching, pract	tical cou	urse, semii	nars				
		number of hours:		,	150 hours				
		bution of available t of educational y	15.1	course	-theoretical	45 hours tea	ching		
			15.2	clinical), seminars team wo	•	45 hours practicourse/seminar			
			16.1	Home st		60 hours			
	Assess	sment of knowledge:	1011	1101110 00			points		
	17.1	Tests					min max		
					ntinuous tests				
				+ S	elected parts fr	om theoretical mic points	crobiology 12 - 20		
					ntinuous test fi heoretical secc	rom first practical and part	part (first half)		
						points	21 -35		
		Final exam		Oral	part	points	min max. 18 - 29		
	17.2	Seminar work/proje (presentation: writte oral)		Semi	nar work	points	min. – ma 0 - 3		
	17.3	Active participation	l			_	min max.		
					retical course ical course	points points	1 - 3 8– 10		
				51%	dance at theorem $-60\% = 1$ point $-2$ poin	int			
					- 91% = 2 poi - 100% = 3 poi				
			1			practical course o			
	Know	6			points		5 (five)		
		ment criteria:		m 60 to 68	-		$\frac{6(\text{six})}{7(\text{savar})}$		
	(points	s/grade)		om 69 to 76 om 77 to 84	<u> </u>		7 (seven) I		
				om 77 to 84 om 85 to 92	-		8 (eight) 9 (nine)		
					DOMID		2 STUDIE J		

19. 20.	Criteria for obtaining a signature and taking the final exam Language of the course			Knowl 4. St the 5. In mi 6. Th 60 Englist	<ul><li>theoretical and practice work) should receive approval for their attendance (sign document).</li><li>5. In order to take the final exam, the student has to win a minimum of 60% of the two continual assessment tests.</li></ul>				
21.			aluation of education			s evaluation by ssociates particip			t, teaching
22.	Literat	ure:							
		Manda	tory literature						
		No.	Autho			Title		Publisher	Year
		1	Jawetz E, M						21 th
			Adelberg	EA.	Μ	edical Micioborl	ogy		ed.,
									2004
									<u>17-т</u> h
			Grinvud	D. M		ledical Microbiology			edition,
	22.1							2006	
		2	Nikola Par					University "Ss.	2011
			and as					Cyril and	
								Methodius"	
		3	Milena Petr	Detmossalse		ka Practical Microbiology		Medical faculty University "Ss.	
		5	and as				logy	Cyril and	5 th ed.,
			und us					Methodius"	2010
								Medical faculty	
1.	Subje	et				BIOSTATIST		WITH M	<b>IEDICAL</b>
						INFORMATI	CS		
2.	Code	<u> </u>				MED-215			
3.	-	Program		•.		General medici		1	
4.		0	stitution ( Un ir, Departmei		UKIM-Faculty of Medicine				
	msutt	iie, Cha	n, Departmen	ut <i>)</i>	Cathedra of epidemiology and biostatistics with medical informatics.				
5.	Educa	tional d	legree (first or	second					
	cycle)		3			Integrated cycle	e		
6.	Study	year/se	mester			II year / III semester	7.	Number of EKTS credits	3
8.	Respo	nsible te	eacher			Head of departs			
						Prof. Dr. Vesna	Velic	Stefanovska	
						Teaching is cor	ducter	l by following men	bers of
								ogy and biostatistic	
						medical inform			-
						Prof. Dr. Draga	n Dan	ilovski	
						Prof. Dr. Kristi			
						Prof. Dr. Biljan			
						Prof. Dr. Vesna			
						Prof. Dr. Rozal	inda Is	janovska	

		Prof. Dr. Beti Zafirova Ivanovska Senior Research assistant prof. Dr. Irina Pavlovska
9.	Preconditions for taking the subject	None

10.	Teachi	ng goals of the Aim	s of stud	ly program	n (competencies	3):	
	1.	Acquiring knowled units.	ge of the	basics of	medical statistics	, terminology, measuring	
	2.	Acquiring theoretical and practical knowledge of analyses of statistical series through implementation of appropriate statistical methods.					
	3.	Acquiring theoretic implementation of	-		-	graphic and vital statistics and	
	4.	Acquiring theoretic of medical information		actical kno	owledge of the ba	asis, concepts and application	
11.	Conter	nt of the study prog	ram:				
		etical course:					
	•	presentation of data according to numer	a; use of a rical char quency ar	relative nu acteristics; id probabil	mbers; analyses method of samp ity (estimation o	ds of collection, grouping and of structure of statistical mass bling) f parameters of samples;	
	•	Hypothesis (t – test	-	proportion			
	•	Analysis of variance					
	•	Pearson $X^2$ - test					
	•	Regression analysis					
	•	Measures of correla Non parameter test					
	•	Research of dynam			nes		
	•	Analyses of surviva		currences			
	•	Demographic statis					
	•	Vital statistics					
	•	Medical informatic	S				
	Practio	cal course: Relations, proportio	one rates	indexes			
	•	Index of dynamics		, macxes,			
	•	Modus and median					
	•	Assessment of para	meters o	f a sample			
	•	Student t-test					
	•	$X^2$ - test					
	•	Correlation	ortions	of the total	statistical mass 1	agad on a complete Lincor	
		trend of time series			statistical mass (	based on a sample • Linear	
	•	Season index					
	•	Practical applicatio	n of term	ns of demo	graphic and vital	statistics	
	•	Medical informatic	S				
12.	Metho	ds of studying:					
	Intera	ctive teaching, prac	tical cou	rse, semin			
13.	Total r	number of hours:			90 hours	for 1 or 14 00.00	
						nours for 1 credit = $90.90 -$	
						g, practical course and nours home study	
14.	Distrib	oution of available t	ime:		101		
15.		f educational	15.1	Lectures	-theoretical		
	activity			course		18 hours of teaching	

16.	Other	types of activities	15.2 16.1 16.2 16.3	Practical (laboratory, clinical), seminars, team work Project assignments Individual tasks	27 hours pra hours hours 45 hours	ctical/seminars		
17.	Assess	sment of knowledge:		Home studying	45 110018	points		
	17.1	Tests		Continuous tests	points	min max. 18 - 30		
				Continuous tests of k of 2 written tests	knowledge (mid-	term) consists		
				<ul> <li>Problems fro dynamics; arithme variation coefficie assessment of para</li> <li>Problems fro</li> </ul>	<ul> <li>Continuous tests relate to:</li> <li>Problems from selected parts (index of dynamics; arithmetic mean, standard deviation and variation coefficient; modus and median; assessment of parameters of sample)</li> <li>Problems from selected parts (student t-test; X<sup>2</sup>- test; correlation; linear trend of time series;</li> </ul>			
				One mid-term test ca	urries 9 – 15 poin	ts		
		Final exam		Oral exam	points	minmax. 36 - 52		
	17.2	Seminar work/proje (presentation: writt oral)		Seminar work	points	min. – max. 0 - 3		
	17.3	Active participation	n	Theoretical course Practical course	points points	$\begin{array}{rl} \text{min} & \text{max.} \\ 1 - 5 \\ 5 - 10 \end{array}$		
				Attendance at theore 51% - 60% = 1 poin 61% - 91% = 2 poin 91% - 100% = 3 poin	nt nts			
			1	Practical course (24	practical course of			
18.	Know	ledge ment criteria:	free	to 59 points m 60 to 68 points		5 (five) F 6 (six) E		
		s/grade)		m 69 to 76 points		7 (seven) D		
	_			m 77 to 84 points		8 (eight) C		
				m 85 to 92 points		9 (nine) B		
19.	Critor	ia for obtaining a		93 to 100 points	nent of knowledg	10 (ten) A		
19.	signature and taking the final exam			Conditional criteria for assessment of knowledge: To obtain a signature, the student needs to acquire minimum points from attendance at seminars, theoretical and practical courses.				
			tests the co stude	ke the final exam, the stud or acquire a minimum of 3 ontinuous tests, whereas d nt shall take the previousl shall take the final exam.	30% of total num uring the exams	ber of points in session the		
			The a	ssessment of the subject i	s established acc	ording to the		

	table of marks, based on the sum of points from all activities,

				continu	lous te	ests and final ex	xam.		
20.	Langu	age of t	he course	Maced	Macedonian				
21.	Metho	d for ev	aluation of	Anonymous evaluation by students on the subject, teaching					
	the qu	ality of	education	staff, a	nd ass	ociates particip	pating	in the teaching.	-
22.	Litera	ture							
		Manda	tory textbooks	5					
		No.	Autho	or		Title		Publisher	Year
		1	James F. Jech David L. Kao J. Elmor, Do M. J. Wild	c, Joan	1	Epidemiology biostatistics an eventive medic	d	Tabernakul	2010
	22.1	2	Danilovski E Orovcanec N Vasilevska K Taushanova Velic Stefan V., Isjanovsk Zafirova Ivan B., Zdravkov M., Pavlovsk	I., K., B., tovska ta R., novska vska ta I.;	Pr	actical teaching Biostatistics	g in	University "Ss. Cyril and Methodius" Medical faculty	2012
		3	Danilovski E Orovcanec N Vasilevska K Taushanova Velic Stefan V., Isjanovsk Zafirova Ivan B., Zdravkov M., Pavlovsk	I., K., B., novska ta R., novska zska		Biostatistics		University "Ss. Cyril and Methodius" Medical faculty	2012
1.	Subje	et			]	EPIDEMIOL	OGY		
2.	Code				1	MED-322			
3.	Study	Program	m		(	General Medic	ine		
4.	Organizing Institution (Unit					UKIM-Faculty			
	Institute, Chair, Department)				(		idemio	logy and biostatistic	es with
5.	Educational degree (first or se cycle)			second	]	Integrated cycle	e		
6.	Study	year/se	mester			III year / VI semester	7.	Number of EKTS credits	5

8.	Responsible teacher	<ul> <li>Head of department/cathedra Prof. Dr. Vesna Velic Stefanovska</li> <li>Teaching is conducted by following members of the Cathedra of epidemiology and biostatistics with medical informatics:</li> <li>Prof. Dr. Dragan Danilovski</li> <li>Prof. Dr. Kristin Vasilevska</li> <li>Prof. Dr. Biljana Tausanova</li> <li>Prof. Dr. Vesna Velic Stefanovska</li> <li>Prof. Dr. Rozalinda Isjanovska</li> <li>Prof. Dr. Beti Zafirova Ivanovska</li> <li>Senior Research assistant prof. Dr. Irina Pavlovska</li> </ul>
9.	Preconditions:	First part of professional exam passed

	Exam of Biostatistics with medical informatics passed (III semester)
10.	Teaching goals of the study program (competencies):
	• Acquiring of theoretical and practical knowledge from the area of epidemiology which would enable recognition and resolution of epidemiological problems and challenges as well as their prevention.
	• Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors for their occurrence.
	• Recognition of the role and meaning of the levels of prevention and their application in practice.
	• Acquiring knowledge of the epidemiological methods and their implementation in the scientific research.
	• Acquiring of knowledge of epidemiology of infectious and noninfectious diseases and conditions.

11.	Content of the study program:									
	<ul> <li>Theoretical course:</li> <li>Basis of epidemiology – introduction, goals, history, contemporary epidemiology;</li> <li>Epidemiology methods</li> <li>Indicators of diseases, deterioration of health, and death rate;</li> <li>Epidemiological process and epidemiological models</li> </ul>									
		rrence of infection,								
		sures of prevention a emiological oversight			liseases					
	• Imm	unization, seroproph	ylaxis, a							
		ination and eradicatinfection, desinsectio			seases					
		th education	in and de	Auton						
		hospital infections	of milit	om confli	at and state of an					
		emiological doctrine emiological characte					smissive			
		tious diseases								
		emiological characte emiological characte					th deterioration.			
	-	-								
	<ul> <li>Appl</li> <li>Proceepide</li> <li>Acqui</li> </ul>	al Course: ication of epidemiol essing of samples fro emics aainting with books of ired theoretical know	om vario of rules,	ous types o	f epidemics – re	-				
12.		ls of studying: tive teaching, pract	tical cou	ırse, semiı	nars					
13.		umber of hours:			150 hours	1 6 1	1: 150.150			
					Credits 5 x 30 hours for 1 credit = 150 150 75 hours teaching, practical course and					
					seminars = 75					
14.		ution of available ti educational		Lastumas	-theoretical					
15.	activity		15.1	course	-meorencai	40 hours to	eaching			
			15.2		(laboratory,					
				clinical), seminars		35 hours prac course/semin				
	team work									
			16.1	Home stu	udy	75 hours				
17.	Assessn	nent of knowledge:					points			
	17.1	Tests					min max			
				Conti	nuous tests	points	18 - 30			

	Continuous tests of knowledge (mid-tern of 2 written tests	m) consists
	Continuous tests relate to: Selected parts from general epid Selected parts from special epid	
	One mid-term test carries 9 – 15 points	
Final exam		мин
	макс. Oral part points - 52	36

	17.2	Seminar work/pro	ject			min. – max.
		(presentation: writ oral)		Seminar work	points	0 - 5
	17.3	Active participation		Theoretical course	points	min max. 1 - 3
				Practical course	points	5 - 10
				Attendance at theoret 51% - 60% = 1 poin 61% - 91% = 2 poin 91% - 100% = 3 poin	nt nts	
				Practical course (24 p	practical course of	3 hours)
18.	Know	ledge		to 59 points		5 (five) F
	assess	ment criteria:	from 60	to 68 points		6 (six) E
	(point	s/grade)	from 69	to 76 points		7 (seven) D
			from 77	to 84 points		8 (eight) C
			from 85	to 92 points		9 (nine) B
			from 93 t	to 100 points		10 (ten) A
19.	Criter	ia for obtaining a	Condition	nal criteria for assess	sment of knowled	ge:
			courses.To take thtests or acthe continstudent shthen shallThe assesstable of m	m attendance at semir e final exam, the stud quire a minimum of 3 uous tests, whereas du all take the previously take the final exam. sment of the subject is arks, based on the sun s tests and final exam	lent must pass the o 30% of total numbe uring the exams se y failed continuous s established accor m of points from a	continuous er of points in ssion the tests, and ding to the
20.	U	age of the course	Macedoni			
21.		od for evaluation of ality of education	5	us evaluation by stu associates participatir		oject, teaching
22.	Litera					
		Mandatory literatu	ire			
			Author	Title	Publisher	Year
	22.1	L. Kac, Jo	leckel, David an J. Elmor, M. J. Wild	Epidemiology, biostatistics and preventive medicine	Tabernakul	2010
		2 Danilovsk	i D.,			
		Orovcane Vasilevska	c N.,		University "Ss. Cyril and Methodius"	
		Stefanovs	ka V.,		Medical faculty	2007
		Isjanovska	a R., Zafirova	General		

Isjanovska R., Zafirova	General	
Ivanovska B.,	Epidemiology	
Zdravkovska M.,		
Pavlovska I.;		

3	Danilovski D., Orovcanec N., Vasilevska K., Taushanova B., Velic Stefanovska V., Isjanovska R., Zafirova Ivanovska B., Zdravkovska M.,University "Ss. Cyril and Methodius" Medical faculty2009Zdravkovska M., Pavlovska I.;Special Epidemiology2009				
Subject:	ANAESTHESIOLOGY WITH REANIMATION				
Study Program:	General Medicine				
Code:	MED 513				
Academic Year:	Fifth (V)				
Semester:	Ninth (IX)				
Total no. of hours:	60				
Credits:	2				
Type of the Subject:	Mandatory				
Preconditions:	Fulfilled condition for the VII semester				
Conducted by: Responsible teacher:	Department of Anaesthesiology with reanimation Prof. Mirjana Shosholcheva, PhD, MD				
Address:	KARIL, Vodnjanska 17, Skopje e- mail: sosolceva@hotmail.com				
Key words:	General medicine studies, mandatory subject, Anaesthesiology with reanimation				
Aims of the study:	<ul> <li>The student has to acquire:</li> <li>Basic knowledge of anaestesiology (types of anaesthesy and the impact the anaesthetics have on the human body, anaesthesiology check-up, anaesthesy preparation, peroral monitoring and peroral administration of patient with anaesthesy, general and local anaesthetics, opiates, muscle reluctant, post anaesthesiology healing, types of anaesthesiology complications and their salvation)</li> <li>Resuscitation as science and its practical appliance in the doctors practice, (elements of basic and progressive keeping in life and ways of manipulation at resuscitation, resuscitation at accidental conditions (electric shock, anaphilaxa, drowning, trauma etc.))</li> <li>Basis of intensive care (urgent procedures at unconsciousness patients, acute respiratory weakness, electrolyte misbalance, and clinical manifestation of the different types of shocks and their therapy)</li> <li>Basic knowledge of healing acute chronic pain To be capable of:</li> <li>Resuscitation of the circulation volume</li> <li>Artificial alimentation</li> <li>Transport of critical patient</li> </ul>				
	<ul> <li>Theoretical course: 20 hours Anesthesiology:</li> <li>Introduction to the subject</li> <li>Pre-Anesthesiology checkup of patient for Anesthesia/operation</li> <li>Types of anesthesia, medications in anesthesia</li> <li>Surveillance and monitoring of patient (basic and progressive)</li> <li>Patients care in post-operation period</li> </ul>				

Brief content:	Reanimation:				
	<ul> <li>SBMO, cardiopulmonary reaning life, DEF, medicaments treatments (KAdefibrilation)</li> <li>Reanimation of accidental consistrike. Cerebral death, Artificial</li> <li>Definition and types of shock-ce</li> <li>Pre-hospital treatment with influederivates transfusion, (bleeding and children)</li> <li>First reanimation, at conscious reanimation of acute respirator weakness, status epilepticus, epilepticus, status epilepticus, status epilepticus, status epilepticus, status epilepticus, status epilepticus, status epile</li></ul>	ent of KA, (EKG main ditions: drowning, de ventilation linics and therapy usion, plasma, blood g and water-salted d ness patient with un y weakness, acute r tatus asthmaticus; <b>I</b> ssification according intice-surgery iration, heart massa tice (im, iv and infus critical patient, reaning	nifestations at eathly electric and blood lisbalance at adults known nature, neuromuscular <b>Practical</b> g to ASA);		
Organization:	Theoretical course: 20 hours Seminars: 2 hours Practical course:18 hours Home learning 20 hours				
Methods of	Interactive teaching, seminars, practica	I trainings			
studying:					
Anticipated results:	<ul> <li>Knowledge and understanding: The student will acquire knowledge on types of anesthesia, medications in anesthesia, per-oral monitoring, postanesthesia period care, types of shock and therapy, reanimation</li> <li>Key skills: The student will be able to apply modern therapy in treatment of acute and chronic pain, basic pre-operation treatment and preparation of patient before anesthesia, infiltrative anesthesia, resuscitation protocols for OOZ and NOZ application, reanimation and urgent procedures for hosting critical patients, polytraumatic and other patients in urgent condition.</li> <li>The student is obliged to participate actively in all anticipated activities including continuous assessment in order to gain a signature.</li> </ul>				
Specific	Points for the activities of the stude	nt:			
recommendations for the course:	Type of activity	Points			
		Min.	Max.		
	Theoretical course* Seminars	1 2	5 4		
	Practical course**	12	16		
	Continual assessment (one)	21	35		
	Final exam-oral	24	40		
	Total:	60	100		
	*theoretical course presence: 51%-60% - 1 points; 61%-70% - 2 points; 71%-80% - 3 points; 81%-90% - 4 points; 91%-100% - 5 points. **practical course (4 groups of practical Presence: 2 points The grade for the whole exam is obtain from all the anticipated activities (lecture exams)	ed by counting the p	points obtained		

Continual assessment of knowledge colloquies – 1 written test
<ol> <li>Anaesthesiology, reanimation patient's shock and therapy 21-35 points</li> </ol>
<ul> <li>Final exam: practical + oral examination</li> <li>1. Practical examination: (according to skills catalogue) + integrative oral part – the integrative knowledge necessary to understand the core of the subject is examined 24-40 points</li> <li>(for 10=38-40 points, for 9=35-37 points, for 8=31-34 points, for 7=28-30 points for 6=24-27 points)</li> <li>The student has to gain minimum 49% of the anticipated points for each part of the exam in order to obtain the points for the final exam. On the contrary, the exam is considered not passed.</li> <li>Complete final exam: is a combination of the failed colloquies and final exam.</li> </ul>
The student is obliged to pass the failed colloquies first, and then to pass the final exam. In case student does not pass the failed exam, he does not have right to take the final exam.
<ul> <li>have right to take the final exam.</li> <li>Edvard Morgan, Madzid Mikail, Majkl Marej Clinical Anesthesiology, Magor, Proect of the Government of R.M. (translated books) 2011</li> <li>Marija Soljakova and coauthors Anesthesiology and reanimation, Biographica 2007</li> <li>Mirjana Shosholcheva, Neuromuscular block, Medical faculty, UKIM</li> </ul>
<ul> <li>Mirjana Shosholcheva, Neuromuscular block, Medical faculty, UKIM, 2012</li> <li>Mirjana Shosholcheva, Physic for anesthesiologists, Medical Faculty, UKIM, 2014</li> </ul>
<ul> <li>Zorka – Nikolova Todorova, Biljana Kuzmanovska, Albert leshi Mechanical ventilation, Prosvetno delo, 2011</li> <li>Biljana Shirgovska, Hypotensive anesthesia, Medical faculty, 201</li> <li>Andonov V., - Heart and pulmonary reanimation</li> </ul>

## bio

1.	Title of the subject	PEDIATRICS-CLINICAL PRACTICE		
2.	Code	MED- 613		
3.	Study program	General Medicine		
4.	Organizer of the study program (unit, institute, division, department)	Ss. Cyril and Methodius University of Skopje- Medical faculty Division of General Pediatrics		
5.	Level of education (first or second cycle)	Integrated cycle		
6.	Academic year/semester	sixth(XI or 7. Number of 6 XII semester) 7. Number of 6 EKTS credit points		
8.	Teacher	Chairman of the Pediatrics Division Prof. Dr. Kata Martinova *The classes are conducted by all the members of the Pediatrics division		

9.	Enrollment requirements	Credit points gained(passed exam) in Pediatrics

10.	Objectives of the program :
	Familiarization with the diagnostic and therapeutic procedures in the field of
	clinical pediatrics

11.	Conte	nts of the program :
	1.	Admission of a sick child in the hospital
	2.	Particularities in the taking of the patient's medical history according to the
	3.	department Particularities of the physical exam according to the department :
	5.	<ul> <li>Hematology</li> </ul>
		Oncology
		<ul><li>Cardiology</li><li>Endocrinology</li></ul>
		Pulmology
		<ul><li>Immunology</li><li>Gastroenterology</li></ul>
		<ul> <li>Neurology</li> </ul>
		• Metabolism
		<ul><li>Neonatology</li><li>Nephrology</li></ul>
		Intensive care
	4.	Creating of algorithms for diagnostic procedures, work diagnosis and therapy
	5	plan in various clinical cases
	5.	<ul> <li>Participation in the clinical work at the department</li> <li>urine analyses</li> </ul>
		<ul> <li>complete blood count and blood smear</li> </ul>
		• pre-transfuzion testing with a legal documentation
		<ul> <li>insertion of a urine catheter</li> <li>ECG (technique and analyses)</li> </ul>
		<ul> <li>cardio-pulmonay resuscitation</li> </ul>
		• interpretation of a chest x-ray
	6.	• injections (subcutaneus, intramuscular, intravenous) To attend and to participate in the following procedures :
		Blood and bone marrow smear
		• pleural puncture
		<ul><li>abdominal puncture</li><li>insertion of a gastric tube and gastric lavage</li></ul>
		<ul> <li>insertion of central venous catheter</li> </ul>
		<ul> <li>measurement of central venous pressure</li> <li>continuous measurement of blood glucose</li> </ul>
		<ul> <li>continuous measurement of blood glucose</li> <li>continuous measurement of blood pressure (Holter)</li> </ul>
		Measurement of blood glucose with glucometer
		<ul><li>gastroscopy, endotracheal intubation</li><li>artificial ventilation</li></ul>
		<ul> <li>peritoneal dialysis</li> </ul>

	hours Cycle studer	(eight h rotatior it's ever	ours a day). Is between tl	Four cy ne ward ies will	cles will s are orga be noted	be held during anized and the	ks, with full time w the XI and XII ser mentors will shift. ' attivity diary", w	nester. The
12.	<ul> <li>Learning methods:</li> <li>Participation in the grand rounds of the Clinic</li> <li>Participation in the everyday work of the Pediatric departments</li> <li>Participation in the procedures form the field of pediatrics</li> </ul>							
13.	Total available amount of hours180 hours							
14.	Distribution of the availabl			le hours	5	120 hours of 60 hours of	exercises home learning	
15.	Types of educational activities		15.1	1 Exercises(laboratory, clinical), seminars, team work		120 hours		
16.	Other	Other forms of activities 16.			Home le	earning	60 hours	
17.	Metho	d of ev	aluation	I				бодови
18.	17.1The student is obliged to attend and actively participate in the clinical practic during three weeks , 15 working days for hours min. max. Clinical practice score-attendance 33 points, participation (skills) 34 pointCriteria for evaluationThe student must achieve a minimum score of 60 points						max. ) 34 poin	
	-	s/score)			0	descriptive (	passed).	
19.	Criteria for completing the seminar and obtaining the right to a final exam		<b>Conditional criteria</b> : To obtain the right to a final exam and score the minimum amount of points necessary for passing of the pediatrics exam , the student is obliged to attend the clinical practice and must master all the skills and activities which are planned in the subject program					
20.	Language on which the education is conducted		Mace	Macedonian				
21.	Methods for evaluating the quality of the			teach	Anonymous evaluation by the students of the subject, the teachers and the collaborators who participate in the education			
22.	Literature							
22.	Mandatory literature							
22.		No Author		or		Title	Publisher	Year
		No						I Cui
22.	22.1	No 1	R. Kliegn Stanton, J. Geme, N. S R. Behrma	<u>St.</u> Schor,		Textbook of rics, 19th	Elsevier Health Sciences	2011
22.	22.1		R. Kliegn Stanton, J. Geme, N. S	<u>St.</u> Schor, n	Pediatr	rics, 19th	Health	
	3	Kuzmanovska D.	Physical Diagnosis	Medical Faculty,	2011			
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		Grujovska S.	in Pediatrics	USCM				

		Addit	ional literature					
		No Author		Title		Publisher	Year	
	22.2	1	Rudolph,Tim C		ediatrics and Thildren's health translation)		Ars Lamina- Skopje (A project of the GOM)	2012
1.	Title (	of the su			PEDIATRIC	S		
2.	Code		lojeet		MED- 511	,D		
3.		prograi		General Medi	cine			
4.	Organ	izer of	the study program e, division, departmer	nt)	Sector and Methodius University of Skopje- Medical faculty Division of General Pediatrics			f Skopje-
5.	Level of education (first or second cycle)				Integrated cyc	ele		
6.	Academic year/semester				fifth/IX fifth/X	7.	Number of EKTS credit points	11
8.	Teacher				Chairman of the Pediatrics Division Prof. Dr. Kata Martinova *The classes are conducted by all the members of the Pediatrics division			
9.	Enroll	ment re	equirements		be passed The criteria fo	or en	e professional exam	
10.	<ul> <li>should be met</li> <li>Objectives of the program (competencies): <ol> <li>The students should gain basic knowledge, which will be applied in a clinical setting in order to handle normal and abnormal growth and development (physical, physiological, psycho-social) of the children from birth to adolescence.</li> <li>The student should be able to provide basic pediatric care to children from different age groups (neonates, infants, toddlers, children and adolescents).</li> <li>The students should gain the appropriate skills and knowledge necessary for the proper handling of the most common and important diseases and urgencies in Pediatrics</li> <li>The students should gain knowledge for professional conduct and communicational abilities necessary for problem-solving (problem solving skills).</li> <li>The students should be equipped for life-long learning , necessary for their further</li> </ol> </li> </ul>							

11.	Contents of the program:
	Theoretical training: 1. Social and preventive pediatrics
	Social-economical factors that influence children's health. Vital statistics for the children's health in R. of Macedonia. Organization of the health-care system,
	National preventive programs, mandatory immunizations 2. Growth and
	development

Normal growth and growth charts, abnormalities of the growth and development. Evaluation of various developmental milestones and discovering of developmental abnormalities.

# 3. Care for the sick child

Primary and hospital care for the children. Ethics. Basics of evidence based medicine. 4. Pediatric emergencies/ accidents/ poisonings

Principles of emergency pediatrics: respiratory, cardiovascular, neurologic and metabolic emergencies, poisonings and serious trauma

# 5. Genetics and dysmorphology

Chromosome disorders, monogenic disorders, multifactorial inheritance and dysmorphism

# 6. Perinatology/ Neonatology

A normal newborn, neonatal resuscitation, growth of the newborn, neonatal seizures, respiratory disturbances, jaundice, metabolic disorders, hematologic disorders, infections, birth trauma and urgent surgical conditions.

# 7. Growth and puberty

Disorders of the pubertal development

### 8. Nutrition

Nutritional needs, breastfeeding, formula feeding, nutritional disorders

### 9. Nephrology

Nephrotic syndrome, glomerulonephritis, urinary tract infection, renal failure, enuresis, hypertension

### **10. Cardiology**

Rheumatic fever, Congenital heart diseases, heart failure, infective endocarditis, arithmias

# 11. Respiratory system

Upper and lower respiratory tract diseases, bronchial asthma, chronic pulmonary diseases, cystic fibrosis

# 12. Infections/ Allergies/Immunity

Conditions accompanied by fever, Specific infections, anaphylactic reactions, urticaria (hives), allergies, immunizations, immunodeficiency disorders

# 13. Endocrinology

Diabetes mellitus, hypoglycemia, hypothyreoidism, hyperthyreoidism, disorders of

the parathyreoid glands, adrenal cortical insufficiency, Cushing's syndrome

# 14. Metabolism

Inborn errors of the metabolism, neonatal screening, gastroenteritis, dehydration and re-hydration, acid-base balance (interpretation and disorders)

# **15. Neurology**

Mental retardation, CNS infections, cerebral palsy, hydrocephalus, microcephaly, neuromuscular disorders

# 16. Gastroenterology/ Hepatology

Abdominal pain, abdominal mass, malabsorbtion, inflammatory bowel diseases, liver diseases, cirrhosis and portal hypertension, hepato-splenomegaly.

# 17. Hematology/Oncology

Anaemias , hemorrhagic syndrome, the most common malignancies in children **18.** Behavioral pediatrics

Behavioral and social problems in childhood, ethic and professional behaviors relevant for the pediatricians

# **19. Rheumatology**

	<ul><li>Evaluation of the musculo-skeletal system, variations of the normal posture, diseases of the hip, knee and foot, diseases of the spine, back and neck, arthritis</li><li>20. Skin</li></ul>										
	<ul> <li>Rash in the neonatal/infant period, infections and infestations, rash during systemic diseases</li> <li>21 Adolescent medicine</li> </ul>										
	<b>21. Adolescent medicine</b> Communication with adolescents, common health problems <b>Practical</b>										
	teaching : Mastering of clinical skills and the practical implementation of the acquired theoretical knowledge										
12.	Methods of studying: interactive lectures, clinical exercises and exercises in primary health-care, problemoriented clinical scenarios, practicing of skills on mannequins, a project exercise, problem oriented seminars (case based)										
13.	Total	available amount of	hours		330 hours						
14.	Distril	oution of the availab	ole hour	S		ectures, exercises and					
					seminars 150 hours of home learning						
15.	Types	of educational	15.1	Lectures		64 hours					
15.	activit		13.1		cal education	0+ nours					
			15.2 Exercises(laboratory,		es(laboratory,	90 hours					
				clinical) team wo	, seminars, ork	Seminars 26 hours					
16.	Other	forms of activities	16.1	Project	exercises	hours					
			16.2	Stand-alone assignments		hours					
			16.3	Home le	earning	150 hours					
17.		od of evaluation sco	re point								
	17.1	Test			<ul><li>minmax.</li><li>Continuous evaluation * 3: score points 30-51</li></ul>						
				(colle All th Colle	*Continuous control of the gained knowledge (colloquiums): 3 written tests (multiple choice) All the fields in Pediatrics are covered: <b>Colloquium 1</b> : neonatolgy, nutrition, genetics,						
						blogy, 10-17 score points					
					—	ocrinology, emergency c diseases/disorders,					
				-		nterology, 10-17 score points					
					oquium 3:hema ology, 10-17 so	ato-oncology, neurology, core points					

Final exam	minmax.Score points20-33The final integrative exam consists of : Taking of the patient's medical history, differential diagnosis, physical exam, skill according to the catalog of skills + an integrated oral exam where the integrated knowledge

	17.2	Seminar		the subject a . The exam and one vir minmax.2 10=30-33 sc	or the understanding of the plenum of and the medical practice is evaluated <b>is conducted on one real patient</b> <b>tual case (practical and oral part)</b> 0-33 score points core points, 9=27-29 score points, ore points, 7=21-23 score points, 6= points			
		assignment/projec (presentation : write oral)		Seminars*p	ooints30 - 40			
	17.3	Active participation	on	minmax				
					teaching score points2 - 6			
				Practical tea	ching score points 8 - 10			
18.		ia for evaluation	from59	score points	5 (five) F			
	(point	s/score)	from 60	) to 68 score points	6 (six) E			
			from 69	9 to 76 score points	7 (seven) D			
			from 7	7 to 84 score points	8 (eight) C			
			from 8:	5 to 92 score points	9 (nine) B			
			from 93	to100 score points	10 (ten) A			
19.	Criter	ia for completing	Conditi	onal criteria:				
		minar and obtaining ght to a final exam	and take	To complete the seminar the student is obliged to attend and take active participation in the seminars, also to achieve the necessary score minimum				
			To obtain the right to a final exam the student is obliged to pass the planed continuous evaluations or to score a 30% minimum of the total amount of points , wherein during the exam session first he must pass the continuous evaluations he hasn't passed and then go to a final exam					
			scores, v sum of t	The score for the subject is formed according a table of scores, which on the other hand is formed according to the sum of the score points from all the activities, continuous				
20	Terre	· · · · · · · · · · · · · · · · · · ·		ons and the fi	nai exam			
20.	-	age on which the tion is conducted	Macedo	man				

2	21.	Methods for evaluating the quality of the education		Anonymous evaluation by the students of the subject, the teachers and the collaborators who participate in the education				
4	22.	Litera	ture					
		Mandatory literature						
		22.1 No Au		thor	Title	Publisher	Ye	
								ar

		1	R. Kliegman, B. Stanton, J. St. Gem N. Schor, R. Behrn		Nelson Textboo Pediatrics, 19th edition	-	Elsevier Health Sciences		20 11
		2	Dushko Mardeshic	Pediatrics Illustrated Texbook of Pediatrics		School book, Zagreb		20 03	
			T.Lissauer, G. Clayden Kuzmanovska D. Grujovska S.			Mosby Elsevie	er	20 11	
		3			Physical Diagno in Pediatrics	osis	Medical Facul USCM	ty,	20 11
		Additi	onal literature				L		I
		No	Author		Title		Publisher	Y	ear
	22.2	1	Mary Rudolph,Tim Lee, Malcolm Leven	lolph,Tim Chil , Malcolm (tran		Ars Lamina- Skopje (A project of the GOM)		201	12
1.	Subject				FIRST AID				
2.	Code				MED-127				
3.	•	Progra			General Medicine				
4.	0	0	nstitution (Unit,		UKIM-Faculty of Medicine Department of general surgery				
5.		,	air, Department) degree (first or seco	nd					
6.	Study	year /s	emester		First (I) Year, second (II) semester		Jumber of redits	1	
8.	Respo	onsible t	eacher		Chief of department of surgery -   <b>Doc.dr. Boro</b> <b>Dzonov</b> Chief of department of anaesthesiology – <b>Prof.</b> <b>d-r Mirjana Sosolceva</b> <b>Prof. d-r Sasko Jovev</b>				
9.		ndition			None				
10.	<ul> <li>Teaching goals of the study program (competencies):         <ul> <li>Introducing the basics of first aid and life support skills</li> <li>Students are introduced with the principles and skills of first aid in unconscious situations, bleeding, broken bones, burns and other accidents, as well as the system of modern triage in mass disasters •</li> </ul> </li> </ul>								

Con	Contents of the study program: Theoretical courses :						
cour							
Fir	<ul> <li>st cycle</li> <li>What is first aid: introduction, meaning and methods</li> <li>Reasons that lead to the need of providing first aid and assessment of the situation: awareness, breathing, circulation, injuries</li> </ul>						
	<ul> <li>Basics of cardiac pulmonary resuscitation</li> <li>Reanimation</li> <li>Life support</li> </ul>						
	Asphyxia and other conditions of impaired breathing						
	<ul> <li>Poisoning</li> <li>Other types of emergency situations</li> <li>Aches</li> </ul>						
Se	cond cycle						
	<ul><li>Wounds and bleeding</li><li>Fractures</li></ul>						
	<ul><li>Injuries on the muscle and joint surfaces</li><li>Burns</li></ul>						
	<ul><li>Bandaging and bandages</li><li>Effects of low and high temperatures</li></ul>						
	<ul> <li>Procedures for major incidents – organization</li> <li>Blackouts.</li> </ul>						

12. **Methods of studying:** Classes will be held in the form of a two-day intensive course. The first day will be taught theoretical classes and practical exercises in groups on reanimation phantom (3 class's theory and 4 classes' practical exercises). The second day will be taught theoretical and practical exercises in surgery (taking care of wounds, wounds, fractures and set.) (3 class's theory and 4 classes practical exercises).

Discussion and consultation whit teachers.

13.	Total no. of hours:			30	
14.	Distribution of the avai	ilable tir	15 classes theory, practical exercises		
				15 hours hor	ne studying
15.	Type of educational	15.1	Lectures	s-theoretical	7 classes
	activity		course a	nd practical	
			teaching		
	-	15.2	Practice, seminars		Practice,8 classes
16.	Other types of	16.1	Project assignments		hours
	activities	16.2	Individu	al tasks	hours
		16.3	Home studying		15 hours
17.	Assessment of knowled	ge:	1		
	points				
					•

17.1 Test	Continuous tests	minмах. points 60 - 100				
		1				
	periodic evaluation of kn	periodic evaluation of knowledge:				
	2 - written test	min – max				
	1. Reanimation	30 - 50				
	2. Surgery	30 - 50				

		Final exam	If the student did not win a minimum score on one or both continuous controls, the student needs to approach the final exam which represents one or two continuous checks that are not passed	
	17.2	Seminar work/project (presentation: written and oral)	min max. Seminar works	
	17.3	Active participation		
18.	Know	ledge assessment	up to 59 points 5 (five)	F

	criteri	a:		6	50 to	o 68 poin	ts				6 (six) E
	(poin	ts/grade	2)			o 76 poin					seven) D
	-	-				o 84 poin					(eight) C
						o 92 poin					(nine) B
						100 poin					0 (ten) A
19.	Criter	ia for ol	otaining a			1		asse	essment of know		
	signature and taking the final exam			To get a signature the student is required to attend the theoretical, practical training and seminars and to gain minimum scores The assessment of the subject is formed according to the table of estimates, based on the sum of points from all activities, continuous inspections.							
20.	Language of the course E				h						
20.						us studer	t's ev	aluat	ion of the subject	et. fe	eachers
									the educational		
22.	Literature										
		Manda	atory textboo	ks							
		Р.бр	Автор	0		Насл	OB		Издавач		Година
	22.1	1	-	chaider olfe arkin	5 em	en and ergency edicine co	minu		Tabernakul Skopje	-	2011
		2	Members of departments involved in teaching		Au	thorized	lectur	es			
1.	Subje	ct				HEAL	CH PI	ROM	IOTION		
2.	Code	-				MED-1			_ `		
3.		Progra	am			General	medi	cine			
4.	Organizing Institution (Unit, Institute, Chair, Department)						-	Medicine cial Medicine			
5.		ational	degree (first		nd	Integrat					
6.			semester			First/II		7.	Number of credits		1

8.	Teacher		Res Kjo *Te	sponsible teach osevska	ent: Prof. Dr. Fimka Tozija her: Prof. Dr. Elena ducted by all teachers of the poial Medicine		
9.	Prerequisites for enroll course:	ing the		ignature for th dicine	e subject Introduction to		
10.	<ul> <li>Teaching goals of the st</li> <li>Introduction to the</li> <li>Preparing for the in</li> <li>Promote health to</li> </ul>	e basic va ndepend	lues of hea ent perfori	alth mance with edu			
11.	<ul> <li>Objectives and to v</li> <li>Health promotion a</li> <li>Motivation for lear</li> <li>Forms, methodolog</li> <li>Health promotion p</li> <li>Health promotion p</li> <li>Health promotion t</li> <li>Areas of work in h</li> <li>Planning and organ</li> </ul>	h educati whom the and health ning heat gy and to principles methods cools ealth pro- nization of eparation	on - Defin health edu h education lth promotion ols in work motion of health pro- n and imple	ition of health e acation is intend ion c in the field of l comotion ementation of th	health promotion e health promotion program in		
12.	Methods of studying: Ir	nteractiv	e lectures.	exercises sen	ninar work		
13.	Total available time:		30 hours				
14.	Distribution of the avai	lable tir			cures, exercises ne studying		
15.	The forms of educational activity	15.1 15.2	Lectures course Exercise seminar work	s-theoretical	10 hours       5 hours		
16.	Other types of	16.1	Project a	assignments	Hours		
	activities	16.2	Individu		Hours		
		16.3	Home st	udying	15 hours		
17.	Assessment of knowled       17.1     Tests	Cont writt It co theor	Continuou inuous as en test vers the fi retical and	sessment of kn irst half of all a l practical trair	minmax. points 18-30 nowledge (Colloquium): 1 areas of the content of the ning program for the subject livided into two equal parts.		

	Final exam		•	min-max. Oral
		part *	points	30-50
		* Oral part (integrative) - 3 knowledge, which is impo whole subject. (for grade: 10 = 47-50 poin points; 7 = 35-38 points; 6	rtant for undents; $9 = 43-46$	erstanding the 5 points, 8 = 39-42
17.2	Seminar work/project (presentation: written and oral)	Seminar work	points	minmax. 6-10
17.3	Active participation	Theoretical course* course** point *Attendance of theoretical 61-74%=3 points 75-90%=4 points		minmax. 3-5 Practical

1.	Title of the subject	PEDIATRICS-SEMINAR
2.	Code	MED- 614

				91-10	0%=5 points						
				**Pra	ctical course (2	blocks	of exercises 5 hours	in total)			
					k=3 points	0100115					
					ks=5 points						
18.	Know	ledge a	ssessment		up to 59points			5 (five) F			
101	criteri				60 to 68points			$\frac{6(\text{six})}{6(\text{six})}$ E			
	(point	ts/grade	e)					seven) D			
					7 to 84points			(eight) C			
					35 to 92points			(nine) B			
			_		3 to 100points			0 (ten) A			
19.	Criter	ia for o	btaining a			for ass	essment of knowled	· /			
17.			taking the				it is required to atter				
	final e		taking the	-	-		and seminars and to				
	innui e	munn			um points.	rannig	and seminars and te	, actile ve			
					-	exam tl	he student should pa	ss the			
							nent and to achieve a				
				-			oints for this assess				
							first takes the unpa				
							comes to the final ex				
				grade from the assessment of the subject is formed in							
				accordance with the table of grades, based on the sum of							
					points from all activities, continuous checks and final						
				exami	nation.						
20.	Langu	age of	the course	Englis	sh						
21.			valuation of	Anon	ymous student's	evalua	tion of the subject, t	eachers			
	the qu	ality of	education	and collaborators involved in the educational activities							
22.	Litera	ture									
		Mand	atory textboo	ks							
			Autho	r	Title		Publisher	Year			
		1			Communicatio	on	Tabernakul	2010			
					skills in clinica	al					
					practice						
		2	D.Donev,		Social medicin	ne	Faculty of	2013			
			M.Spasovsl	ci,			Medicine				
			F.Tozija,				In print				
	22.1		E. Kjosevsk	ta							
		3	D.Donev,		-	motion	Faculty of	2013			
			L.Mirchevs	,	and health		Medicine				
			V.Stojanov		education		In print				
			E. Kjosevsk								
			Z.Velkovsk	1.							
			I.Gligorov,								
			E.Rizova								
		٨ ٩ ٩ ٩	ional literature	20							
		Audit	ional literatur		Title		Publisher	Year			
	22.2	1	Autho	1		ion	Hans Jacobs	2007			
	22.2	1	Donev D., Pavlekovic	G	Health promot and disease	1011		2007			
			Zaletel Krag		prevention		Publishing Company				
			Laiciti Ma	scij L	Prevention		Company				

3.	Study	programe		Ge	neral Medici	ine				
4.	-	nizer of the study pr	ogram	Ss.	Cyril and M	lethod	ius University of	f Skopje-		
	-	institute, division, d	-		dical faculty		5	15		
		, , ,	1		vision of Ger		Pediatrics			
5.	Level cycle)	of eduction (first or	second	Int	egrated cycle	e				
6.	•	mic year/semester			sixth (XI or 7. Number of 1 XII EKTS credit					
				semester) points						
8.	Teach	er		Chairman of the Pediatrics Division						
				Pro	f. Dr. Kata I	Martin	ova			
							lucted by all the	members		
				-	he Pediatric		-			
9.	Enroll	ment requirements					from the exam in			
						rom tl	ne clinical praction	ce in		
					liatrics					
10.		<b>Objectives of the</b>	progra	<b>m :</b>						
		During the semina								
		presentation, the a								
		opportunity to bec	ome far	niliarizec	with the bro	bader s	spectrum of Pedi	atric		
		casuistry								
11.	Conte	nts of the program								
	•	Theoretical proces	0		-		-			
	•	Problem-solving o			1	-				
	•	Case presentation	during s	seminars	which are pr	oblem	i-based			
	<b>T</b> 1 1		C	1 0	<b>C</b> 1		<b>F</b> 1 '11			
		asses will be held o		days, to	r four hours	eacn.	Four cycles will	be held		
		the XI and XII sen	lester							
12.	Metho	ods of learning:			.1					
					y the profes			1.12		
				ly partici	pates in the c	liscus	sion and in the p	ublic case		
		presentatio		only organ	, dour in anou	maof	20 students on a			
				•	• •	-	20 students on a experts, will parti	cinata in		
		-	-		-	with e	xperts, will part	cipate in		
		"for or aga	•	-		1		ndu sta 1		
13.	Total	• A tutorial s available amount of			on with prot 30 hours	siein s	olving will be co	mauctea		
13.		oution of the availab		20	20 hours of	fami	<b>nor</b> a			
14.	Distrit	oution of the availab	ne nour	3	10 hours of					
15.	Turner	of educational	15.1	lectures	-theoretical		, icai iilig			
13.	activit		13.1	educatio						
	activit	100	15.2		s(laboratory	, C.	eminars 20 hour	e.		
			13.2		, seminars,	<i>'</i> , 56	minars 20 nour	5		
				team wo						
16.	Other	forms of activities	16.1		assignments	h	ours			
10.	Julei	iornis of activities		0	U					
		16.2			and-alone		hours			
			16.3	assignm Home le		1/	) hours			
17	Matha	d of or altration	10.5	nome is	arning	П		n a inta		
17.		d of evaluation	C _ 1_ '	ng of -		<b>n</b> c a - <b>!</b>		points		
	17.1	Final	Solvi	ng or a c	ase (semina	r assiş				
		exam	<b>XX</b> 74	ton		ta 1	min. – max.	•		
				ten part	poin <sup>*</sup>		5 - 30			
			Ora	l present	auon p	oints	15 - 30			

	17.2	Semin assign	ar ment/projec	Semin	ar as	ssignment written	+ oral presentati	on		
		t(prese	entation :							
	17.3	Active	n or oral)				min <b> max.</b>			
	17.5		ipation	Semin	ars*	points				
18.		ia for ev s/score)	valuation	each. The st	Atte udent	nars are held over ndance : 4 points; must achieve min	<b>participation: 4</b> imum 60 points			
10	-					g is descriptive (p	assed).			
19.	Criteria for completing the seminar and obtaining the right to a final exam		To cor and tal	nplet ke ac	al criteria: e the seminar the s tive participation in necessary score m	n the seminars, also				
					pare a	ne right to a final e a seminar assignme a		-		
20.	Language on which the education is conducted			Maced	lonia	n				
21.	Methods for evaluating the quality of the education			Anonymous evaluation by the students of the subject, the teachers and the collaborators who participate in the education						
22.	Litera			• • • • • •						
		Manda	atory literatur	e						
		No	Auth	or		Title	Publisher	Year		
		1	<u>R. Kliegma</u> <u>Stanton, J. S</u> <u>N. Schor</u> , R. Behrman	<u>St. Geme</u> ,		Nelson Textbook of Pediatrics, 19th edition	Elsevier Health Sciences	2011		
	22.1	2	Dushko Ma		<b>1</b>	Pediatrics	School book, Zagreb	2003		
			T.Lissauer, G. Clayden		,	Illustrated Texbook of Pediatrics	Mosby Elsevier	2011		
		3	Kuzmanovs Grujovska S					Physical Diagnosis in Pediatrics	Medical Faculty, USCM	2011
		Additi	ional literatur	e	1					
		No	Author	r	<b>P</b> 1	Title	Publisher	Year		
	22.2	1	Meri Rudolph,Tin Lee, Malcol Leven	Tim Ch		iatrics and ldren's health nslation)	Ars Lamina- Skopje (A project of the GOM)	2012		
1.	Subjec	t				TRANSFUSIOL	OGY	·		
2.	Code					MED 324	J 4 .			
3. 4.	Organi	program zing Ins Departn	titution ( Unit,	Institute	2,	Undergraduate st Cathedra of Tran Institute of transf		onie		
5.		•	gree (first or so	econd		Integrated cycle	usion incurcine, SK	օրյս		
<i>5</i> .	cycle)		/semester							
0.	1 Iouuo	ine year	.,							

8.	Teach	er					ilenka Blagoevska -r Tatjana Makarovska Bojadzieva		
9.	Condi	tions							
10.	Aims	of stuc	ly program: <b>F</b>	undament	tals of ]	laboratory an	d clinical transfusiology		
11.	Theore Trans and he Practic	etical fusiol emori cal: B	ogy •hagic disorde	donation, ers. 1, Immunc	L	aboratory dia	y, Blood components, Clinical gnosis and treatment of thrombotic components, Laboratory testing of		
12.				es, Practio	cal wor	k, Seminar p			
13.			er of hours			30 часо	ВИ		
14. 15.			of activities	15.1.	Lec	tures	16 часа		
15.	Forms of activities		15.2.	Pra	ctical work	14 часа			
16.	Other forms of activities			16.1. 16.2. 16.3.		ninar project ividual work	4 часа Seminar project		
17.	Asses	ement		10.5.					
	Assessment       17.     Tests       1     17.       17.     Seminarian project				First exam Final exam	минмакс. 18-30 20-36 минмакс 4-			
		1 5					минмакс +- 8		
	17. 3	Active	e participation			Lectures Praxis	минмакс. 6-10 12-16		
18.	Knowledge Le				es		6-10		
	assess	assessment criteria: Pr			al work		12-16		
					r projec	ct	4-8		
					First exam		18-30		
				Final ex	xam		20-36		
19.	Criteri	ia for a	signature and	Total	neonoo	of the studen	60-100 ts in theoretical and practical		
19.	exam		signature and				tion of the seminar project.		
20.	Langu	age			glish	<u> </u>			
21.	Assess teaching		of quality of				n of students in theoretical and reports, problem solving-exams)		
22.	Litera	-		<b>F</b> - <b>w</b>	• • • •	8 (0000			
		-	Obligatory lit	erature					
	22.	1.	use and Blood C of Europ 2. Essen Groups, G.Danie 3. An in	tial gide to I	ssuranc its, Cou o Blooc .Bromi	e of incil			

22.2.	4. Technical Mannual,AABB

1.	Subject	<b>INTRODUCTION</b>	TO MEDICINE			
2.	Code	MED 115				
3.	Study Program	General medicine				
4.	Organizing Institution (Unit, Institute, Chair, Department)	UKIM-Faculty of Me Department of Social				
5.	Educational degree (first or second cycle)	Integrated cycle				
6.	Study year /semester	First/I 7.	Number of 2 credits	2		
8.	Teacher	Head of Department: Prof. Dr. Fimka Tozija Responsible teacher: Prof. Dr. Mome Spasovski *Teaching is conducted by all the teachers of the Department of Social Medicine				
9.	Prerequisites for enrolling the course:	None				
11.	<ul> <li>Introduction to the basic principl</li> <li>Introduction to the history of me</li> <li>Character and importance of the organization of health care.</li> <li>Health and disease and levels of</li> <li>Basic characteristics and prevent</li> </ul> Contents of the study program: Theoretical course:: <ul> <li>Definition, tasks, and division of and doctor</li> <li>Medical Education, Edinburgh de medicine and public health throug</li> <li>Development of modern medicini</li> <li>Theoretical course of the d</li> <li>Principles of organization and level</li> <li>Medical professions - legislative Internship and professional exam</li> <li>Health status of the world's popul Characteristics and prevention of</li> <li>International and national organization</li> </ul>	dicine and public health medical professions, pri prevention. on of certain diseases a medicine; Conditions for claration; Retrospective the centuries control of health; De sease, and levels of prevent els of the health care system of the health care system definical aspects; Med Specializations and sub ation. Ethical dilemmas certain diseases and grou ations in the field of heal	inciples and levels of <u>nd groups of diseases.</u> r a good student of medi of the development of s of medicine terminants of health; Wi vention stem lical and other profession o-specializations and values in public hea up of diseases.	hat ns;		
	<ul> <li>Control and prevention of commutation</li> <li>Introduction to the work and orgation</li> <li>Practical field work in the commutation</li> <li>.</li> </ul>	nization of health institu				
12.	Methods of studying: Interactive lect work	ures, exercises, semina	ars and field practical			

13.	Total no. of hours:			60 hours		
14.	Distribution of the avail	able tir	ne			
15.	Type of educational activity	15.1	Lectures course	s-theoretical	15 hours	

			15.2	Exercises, seminars, team work	15 hours			
16.	Other	types of	16.1	Project assignments	hours			
	activi	ties	16.2	Individual tasks	hours			
			16.3	Home studying	30 hours			
17.	Asses points	sment of knowledg	ge:					
	17.1	Tests		Continuous assessi	min-max. nent points 18-30			
				of course of theore	ritten test. alf of all areas of the content tical and practical teaching			
				for the subject Intro is divided into two	oduction to medicine, which equal parts.			
		Final exam		Oral part *	min-max. points 30-50			
				integrative knowle understanding of th (for grade10 = 47-3	tive) - 3 questions for dge, which is important for ne whole subject 50 points; $9 = 43-46$ points; $8 = 35-38$ points; $6 = 30-34$			
	17.2	Seminar work/pro (presentation: wri oral)		Seminar works	minmax. points 6-10			
	17.3	Active participation	on	Theoretical course course**	minmax. * points 3-5 Practical points 3-5			
				* Presence at the th 61-74% = 3 points 75 - 90% = 4 points 91-100% = 5 points	3 ts			
				** Practical classes hours)	<ul> <li>** Practical classes (3 blocks of exercises of 3 hours)</li> <li>2 blocks = 3 points</li> </ul>			
18.	Know	ledge assessment		up to 59 points	5 (five) F			
	criteri	a:		60 to 68 points	6 (six) E			
	(poin	ts/grade)		69 to 76 points	7 (seven) D			
				77 to 84 points	8 (eight) C			
				85 to 92 points         9 (nine)				
			9	93 to 100 points	10 (ten) A			

19.	Criteria for obtaining a	Conditional criteria for assessment of knowledge: To
	signature and taking the	get a signature the student is required to attend the
	final exam	theoretical, practical training and seminars and to
		achieve minimum points to access the final exam.
		To access to the final exam the student should pass the
		predicted continuous assessment and to achieve at least
		60% of the total number of points for continuous
		assessment, whereby in the exam session first takes the
		unpassed continuous checks, then comes to the final

				-		•		rmed in accordance		
					-			sum of points from a nent and final exam.		
20.	Langu	age of t	the course	Englis	h					
21.			valuation of education			nous student's evaluation of the subject, teachers laborators involved in the educational activities				
22.	Litera		cudoution	una co	mue		a m		VILIOS	
			atory textboo	ks						
			Autho	r		Title		Publisher	Year	
	22.1	sk		ski	ommunication Ills in clinical actice		Tabernakul	2010		
		2	] ]			Introduction to Medicine		Faculty of Medicine	2013	
		Addit	ional literatur	e					I	
	22.2		Autho	r		Title		Publisher	Year	
		1								
1	Ch :-	5				οτοριικο	TAI			
1. 2.	Subje Code	cı				MED 522	LA	RYNGOLOGY		
3.		Progra	am			General media	cine			
4.	•	U	Institution ( <b>U</b>	U <b>nit,</b>		UKIM-Facult		Medicine		
			air, Departm							
5.	Educa cycle)		degree (first	or seco	nd	Integrated cyc	cle -	first		
6.	Study year /semester					Fifth (V)	Tenth(X)		6	
8.	Responsible teacher					Prof. Marina Davcheva Chakar, PhD MD				
9.	Preconditions:					Completed co	ours	e of VII semester		
10.	Teach •	Stude		n the mai	in sy	•		f certain pathological		
	•	То ре	rform the basic	c investig	gatio	ons in this area.				

middle and inner ear, noninflammatory inflammatory diseases of external ear, and chronic middle ear diseases, otogenic complication of otitis, injuries of the ear, bone diseases of the middle ear, general aspects of cochlear and retrococh hearing loss, treatment of pediatric hearing disorders, vestibular disorders, tuming the ear, tumors of the cerebellopontine angle, sudden snsorineural hearing loss trempent of pediatric hearing disorders, vestibular disorders, tuming the ear, tumors of the cerebellopontine angle, sudden snsorineural hearing loss trempent of pediatric hearing disorders, vestibular disorders, tumors of the case and paranasa sinuses. morphology of the nasal mucosa, nasal deformities, inflamation, nasa polyposis, rhinosinugenic complicatios, tumors of the nasal cavity and facial soft tissues, sinus inflamation, nasa polyposis, rhinosinugenic complicatios, tumors of the nasal cavity and facial soft tissues, sinus inflamation, nasa polyposis, rhinosinugenic complicatios, tumors of the nasal cavity and facial soft tissues, sinus inflamation, nase, nasal pyramid, tumors of the nose nad paranasal sinuses.         • Anatomy, physiology and immunology of the pharynx, diseases of the nasopharynx, oropharynx, peripheral obstructive sleep apnea syndome, tumors, diseases of the hypopharynx and trachea, infectious diseases of the larynx and trachea, infectious diseases of the larynx and trachea, interdex, inflammation and tumors neck, clinical anatomy of the larynx, clinical aspects of the voice disorder speech and language disorders.         Practical course:       •         •       •         •       Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests.         •       History and clinical examination of flarynx (inspection, palpation ind		Contents of the study program: Theoretical								
paranasal sinuses, allergic rhinitis, vasomotor rhinitis, epistaxis, fracture nasal pyramid, tumors of the nose nad paranasal sinuses.         • Anatomy,physiology and immunology of the pharynx, diseases of the nasopharynx, oropharynx, peripheral obstructive sleep apnea syndome, tumors, diseases of the hypopharynx and esophagus.         • Anatomy of the external neck, malformation,inflammation and tumors neck,clinical anatomy of the larynx and trachea, malformation of the la and trachea, infectious diseases of the larynx and trachea, induction on specific laryngitis, foreign-body aspiration and in the larynx and trachea, infectious diseases of the larynx and trachea, airway manage neurogenic disorders of the larynx, clinical aspects of the voice disorder speech and language disorders.         Practical course:         • Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,         • History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.         • Methods of studying: Interactive lectures, group work, exercises, seminar paper 13.         Total no. of hours:       90 hours         14.       Distribution of the available time         15.       Type of educational associational course, team and so the avail and work         16.       Other types of activities       16.1       Project assignments hours         16.       Individual tasks       hours		• Clinical anatomy immunology and physiopogy of the nose and paranasal sinuses. morphology of rhe nasal mucosa, nasal deformities, inflamaton of external nose, nasal cavity and facial soft tissues, sinus inflamation, nasal								
<ul> <li>Anatomy, physiology and immunology of the pharynx, diseases of the nasopharynx, oropharynx, peripheral obstructive sleep apnea syndome, tumors, diseases of the hypopharynx and esophagus.</li> <li>Anatomy of the external neck, malformation, inflammation and tumors neck, clinical anatomy of the larynx and trachea, malformation of the lar and trachea, infectious diseases of the larynx and trachea in adults and childfren, chronic nonspecific laryngitis, foreign-body aspiration and in the larynx and trachea, tumors of the larynx and trachea, airway manage neurogenic disorders of the larynx, clinical aspects of the voice disorder speech and language disorders.</li> <li>Practical course:         <ul> <li>Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,</li> <li>History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea.</li> </ul> </li> <li>Methods of studying: Interactive lectures, group work, exercises, seminar paper 3.</li> <li>Total no. of hours:         <ul> <li>90 hours</li> <li>15.</li> <li>Type of educational activity</li> <li>15.1</li> <li>Lectures-theoretical cloardory, clinical, seminars, team work</li> <li>16.0</li> <li>Other types of activities</li> </ul> </li> </ul>										
16.       Other types of activities       15.1       Lectures, group work, exercises, seminar paper 13.         16.       Other types of activities       16.1       Project assignments       30 hours         16.       Other types of activities       16.1       Project assignments       16.1										
neck,clinical anatomy of the larynx and trachea, malformation of the lar and trachea, infectious diseases of the larynx and trachea in adults and childfren,chronic nonspecific laryngitis, foreign-body aspiration and in the larynx and trachea, tumors of the larynx and trachea, airway manage neurogenic disorders of the larynx, clinical aspects of the voice disorder speech and language disorders.         Practical course:       •         •       Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,         •       History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.         •       Methods of examining the farynx,         •       Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea, inclusing the farynx,         12.       Methods of studying: Interactive lectures, group work, exercises, seminar paper 13.         Total no. of hours:       90 hours         14.       Distribution of the available time         15.       Type of educational activity         15.2       Practicals (laboratory, clinical), seminars, team work         16.1       Project assignments       hours		tumors, diseases of the hypopharynx and esophagus.								
and trachea, infectious diseases of the larynx and trachea in adults and childfren, chronic nonspecific laryngitis, foreign-body aspiration and in the larynx and trachea, tumors of the larynx and trachea, airway manage neurogenic disorders of the larynx, clinical aspects of the voice disorder speech and language disorders.         Practical course:       • Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,         • History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.         • Methods of examining the farynx,         • Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea.         12.       Methods of studying: Interactive lectures, group work, exercises, seminar pape and direct laryngoscopy) and trachea, imaging of the larynx and trachea.         15.       Type of educational activity       15.1       Lectures-theoretical 30 hours 15 hours seminars         15.       Type of educational activity       15.2       Practicals (laboratory, clinical), seminars, team work         16.       Other types of activities       16.1       Project assignments hours		•								
the larynx and trachea, tumors of the larynx and trachea, airway manage neurogenic disorders of the larynx, clinical aspects of the voice disorder speech and language disorders. <b>Practical course:</b> • Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,         • History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.         • Methods of examining the farynx,         • Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea.         12.       Methods of studying: Interactive lectures, group work, exercises, seminar paper of educational activity         13.       Total no. of hours:       90 hours         14.       Distribution of the available time       30 hours is possible time         15.       Type of educational activity       15.1       Lectures-theoretical course is possible to be seminars in the project assignments is possible to be seminars in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be seminared in the project assignments is possible to be possible to be seminared in the project assignments is			•	•		•				
12.       Methods of studying: Interactive lectures, group work, exercises, seminar pap         13.       Total no. of hours:         14.       Distribution of the available time         15.       Type of educational activity         15.       Type of educational activity         16.       Other types of activities         16.       Other types of activities										
<ul> <li>speech and language disorders.</li> <li>Practical course:         <ul> <li>Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,</li> <li>History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea.</li> </ul> </li> <li>12. Methods of studying: Interactive lectures, group work, exercises, seminar paper 13. Total no. of hours:</li></ul>		•			•	• •				
<ul> <li>Examination of the ear (inspection and otoscopy), clinical hearing tests, basic of audiometry, nystagmus clasification and tests,</li> <li>History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea, imaging of the larynx, imaging of the larynx and trachea, imaging of the larynx, imaging of the larynx, imaging of the larynx, imaging of the larynx, imaging</li></ul>		speech and langua		•						
<ul> <li>of audiometry, nystagmus clasification and tests,</li> <li>History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trache</li> <li>Methods of studying: Interactive lectures, group work, exercises, seminar pape</li> <li>Total no. of hours:</li> <li>90 hours</li> <li>14. Distribution of the available time</li> <li>15. Type of educational activity</li> <li>15.1 Lectures-theoretical course</li> <li>15.2 Practicals (laboratory, clinical), seminars, team work</li> <li>16. Other types of activities</li> <li>16.1 Project assignments</li> <li>hours</li> </ul>	Pra	actical course:								
<ul> <li>of audiometry, nystagmus clasification and tests,</li> <li>History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea in and direct laryngoscopy) and trachea, imaging of the larynx and trachea.</li> <li>Methods of studying: Interactive lectures, group work, exercises, seminar paper of the available time</li> <li>Total no. of hours:</li> <li>90 hours</li> <li>15. Type of educational activity</li> <li>15.1 Lectures-theoretical course</li> <li>15.2 Practicals (laboratory, ds hours 15 hours seminars</li> <li>15.2 Practicals (laboratory, ds hours</li> <li>15.4 Distribution of the available time</li> <li>16.1 Project assignments hours</li> <li>16.2 Individual tasks</li> </ul>		• Examination of the	ear (ins	pection and	d otoscopy), clin	ical hearing tests, basic princips				
<ul> <li>rhinologic tests, imiging of the nose and paranasal sinuses.</li> <li>Methods of examining the farynx,</li> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and tracheaning the larynx and tracheaning the larynx and tracheaning of the larynx and tracheaning of the larynx and tracheaning of the larynx and tracheaning the larynx and tracheaning of the l</li></ul>		of audiometry, nyst	tagmus c	lasificatio	n and tests,					
• Methods of examining the farynx, • Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trache and direct laryngoscopy) and trachea, imaging of the larynx and trachea, imaging o		•								
<ul> <li>Symptomatology and examination of larynx (inspection, palpation ind and direct laryngoscopy) and trachea, imaging of the larynx and trachea.</li> <li>Methods of studying: Interactive lectures, group work, exercises, seminar paper 3.</li> <li>Total no. of hours: 90 hours</li> <li>Distribution of the available time</li> <li>Type of educational activity</li> <li>15.1 Lectures-theoretical course</li> <li>15 hours seminars</li> <li>15.2 Practicals (laboratory, clinical), seminars, team work</li> <li>16.1 Other types of activities</li> <li>16.2 Individual tasks</li> </ul>					e and paranasal	sinuses.				
and direct laryngoscopy) and trachea, imaging of the larynx and trachea         12. Methods of studying: Interactive lectures, group work, exercises, seminar pape         13.       Total no. of hours:         90 hours       90 hours         14.       Distribution of the available time         15.       Type of educational activity         15.       Type of educational activity         15.2       Practicals (laboratory, clinical), seminars, team work         16.       Other types of activities         16.       Other types of activities			-	•	of larvnx (insr	pection, palpation indirect				
13.Total no. of hours:90 hours14.Distribution of the available time90 hours15.Type of educational activity15.1Lectures-theoretical course30 hours15.Type of educational activity15.1Lectures-theoretical course30 hours16.Other types of activities16.1Project assignmentshours16.2Individual taskshours16.2Individual tasks						· • •				
13. Total no. of hours:90 hours14. Distribution of the available time90 hours15.Type of educational activity15.1Lectures-theoretical course30 hours15.Type of educational activity15.1Lectures-theoretical course30 hours15.Type of educational activity15.1Lectures-theoretical course30 hours15.2Practicals (laboratory, clinical), seminars, team work45 .hours16.Other types of activities16.1Project assignmentshours16.2Individual taskshours										
14.       Distribution of the available time         15.       Type of educational activity       15.1       Lectures-theoretical course       30 hours 15 hours seminars         15.2       Practicals (laboratory, clinical), seminars, team work       15 hours       45 hours         16.       Other types of activities       16.1       Project assignments       hours			teractive	e lectures		exercises, seminar paper				
15.Type of educational activity15.1Lectures-theoretical course30 hours 15 hours seminars15.2Practicals (laboratory, clinical), seminars, team work45 .hours16.Other types of activities16.1Project assignments I6.2hours			able tin	ne	<i>50 nours</i>					
activitycourse15 hours seminars15.2Practicals (laboratory, clinical), seminars, team work45 .hours16.Other types of activities16.1Project assignments Individual taskshours			1	1	s-theoretical	30 hours				
16.     Other types of activities     16.1     Project assignments hours       16.2     Individual tasks     hours		-								
Item     seminars, team work       16.     Other types of activities       16.2     Individual tasks			15.2		· · ·	45 .hours				
Indextwork16.Other types of activities16.1Project assignmentshours16.2Individual taskshours										
activities16.2Individual taskshours					., <i>wann</i>					
			16.1	÷		hours				
16.3 Home studying hours	act	tivities								
	<u> </u>		16.3	Home st	udying	hours				
17. Assessment of knowledge: points		•	ge:							

	17.1	Tests		2 Continuous tests	minmax.
				<ul> <li>Otology and audiology</li> <li>Nose, paranasal sinuses, Farynx,larynx</li> </ul>	12-20 12-20 Total 40 points
		Final exam		Subject: otorhinolaryngology Practical exam 9-10 poir Oral exam 21-35 points	minmax.
	17.2	Seminar work/pro (presentation: writ oral)	-	Seminar works	minmax. 1-3 points
	17.3	Active participation	on	-	minmax. ints 1-5 ints 4-7
18.	Know	eledge assessment	ur	o to 59 points	5 (five) F

	criteri	a:		(	50 to	o 68 points		6	(six) E
	(poin	ts/grade	)	(	59 to	o 76 points		7 (se	even) D
				-	77 to	o 84 points		8 (e	ight) C
				8	35 to	o 92 points		9 (1	nine) B
				93	93 to 100 points 10			(ten) A	
19.	Criter	ia for ol	otaining a	C ond	C onditional criteria for assessment of knowledge: In				
	U U		taking the		order to get a signature for the course, students are				
	final e	xam		requested to actively participate in the activities, including					
				the continual assessment (the tests).					
20.	_	-	he course	English					
21.			valuation of	-	Anonymous student's evaluation of the subject, teachers				
			education	and co	llab	orators invo	olved i	in the educational activi	ities
22.	Litera	1							
		Manda	datory textbooks						
			Autho			Title		Publisher	Year
	22.1	1	Rudolf Prob		-	asic		Georg Thieme Verlag	2006
			,Gerhard Gr	revers,	ot	orhinolaryng	go S	tuttgard- New York,	
			Heinrich Iro	)	lo	ξγ			
		7							
		Additi	onal literatur						
			Autho			Title		Publisher	Year
		1	K. J. Lee, N	1.D.	-	J.LEEs		Tenth edition	2012
	22.2					sential		Copyright material by	
						olaryngology	J	Ac-Grow Hill	
					-	ad and neck		Companies,	
1.	<u>Cubia</u>	<b>A</b>			su	rgery, <b>OPHTHA</b>	IMO		
1.	Subje	cı				MED 523		LUGI	
<u> </u>	Code Study	Ducar				General me		0	
<u> </u>	v	Progra		[]4					
4.	0	0	nstitution ( ) air, Departn	,		UKIM-Faculty of Medicine			
5.		,	degree (first		nd	Cathedra .of Ophthalmology Integrated cycle			
5.	cycle)		uegree (mst	or seco	nu	megrateu	cycle		
	cycle)								

6.	Study year /semester	Fifth/ V	Ten	Number of	4				
			th	credits					
			(X)						
8.	Responsible teacher	Prof.Vesna I	Dimovs	ka Jordanova MI	),PhD				
9.	Preconditions:	Fulf	illed c	riteria for asse	ssing Xth				
		semester.							
10.	<ul> <li>Teaching goals of the study progra</li> <li>Student's ability for learning most common ophthalmologica</li> <li>Embracing knowledge for perfator setting proper diagnosisi of</li> </ul>	basic pathological al diseases orming fundamen	l signs to tal skills	s and general inves					
11.	for setting proper diagnosisi of certain ophthalmological diseases Contents of the study program: Theoretical								
11.	course:	ncorcucar							
	Pathology of orbit and refract	tions							
	<ul> <li>Diseases of eyelids, conjunctiva and lacrimal system</li> </ul>								
	<ul> <li>Diseases of eyends, conjunctiva and factimal system</li> <li>Diseases of anterior segment – cornea, iris and lens</li> </ul>								
	-	<ul> <li>Classification, clinical course, diagnosis and treatment of primary and</li> </ul>							
	secondary glaucoma								
	Diseases of posterior segments	nt – vitreus body	, optic	nerve, choroid ar	d retina				
	<ul> <li>Strabismus, nystagmys, amblyopic conditions</li> </ul>								
		• •							
	Practical course:								
	History and local status								
	Basic methods of investigati	on of anterior se	gment	and slit-lamp exa	mination				
	Visual acuity determination								
	• Special methods of investigation: direct and indirect ophthalmoscopy,								

tonometry, gonioscopy, perimetry, ultrasound and biometry, FFA, exophthalmometry, Optical coherence tomography of anterior and posterior segment, aplication of laser treatment techniques in ophthalmology

• Introduction with basic principles of most common surgical procedures

13.	Total	no. of hours:			. 60. hours			
14.	Distri	bution of the ava	ilable tir	ne				
15.	5. <b>Type of educational</b>		15.1	Lectures	s-theoretical	20 hours		
	activi	ty		course				
			15.2	Practica	ls (laboratory,	Practical - 30.hour		
				clinical)		Seminars – 10 hours		
				seminar	s, team			
				work				
16.		r types of	16.1	Project assignments		hours		
	activi	ties	16.2	Individu	ial tasks	hours		
			16.3	Home studying		60 hours		
17.	Asses points	sment of knowled	lge:					
	17.1	Tests				minmax.		
				2 Co	ntinuous tests	total points		
				•	<ul><li>Generalophthalmology 11,5-19</li><li>Special ophthalmology 11,5-19</li></ul>			
				•				
				•				
					Total	number - 38 points		

		Final exam		Subject: C minmax.	phthalm	ology	
				Practical exam		6-11 points	
				 Oral exam		25-41 points	
	17.2	Seminar work/pro				minmax.	
		(presentation: writ	ten and	Seminar wor	ks	3-5	
		oral)		points			
	17.3	Active participation	on			minmax.	
				Theoretical c		points 1-3	
				Practical cou	rse	points 4-7	
18.			up	up to 59 points		5 (five) F	
	criteri		60	to 68 points		6 (six) E	
	(poin	ts/grade)	69	to 76 points		7 (seven) D	
			77	to 84 points		8 (eight) C	
			85	to 92 points		9 (nine) B	
			93 t	to 100 points		10 (ten) A	
19.	Criter	ia for obtaining a	Conditi	onal criteria	for asses	sment of knowledge: In	
	signat	ure and taking the	order to	order to get a signature for the course, students are			
	final exam obliged			to visit practes	al and th	eoretical lectures with	
			active pa	articipation, in	terms of	f getting minimal points	
			for asses	ssing the conti	nuous te	sts and final exam.	
20.	Langu	age of the course	English				

21.	Metho	od for e	valuation of Anor	Anonymous student's evaluation of the subject, teachers				
	the qu	ality of	education and c	ollaborators involved i	n the educational act	ivities		
22.	Litera	ture						
		Mand	atory textbooks					
			Author	Title	Publisher	Year		
		1	Blagojevic M.	"Ophthalmology"		2004		
		2	Cynthia A.Bredford	"Basic Ophthalmology"	Tabernakul,Skopj e	2011		
	22.1	3	Group of authors from the Cathedra of ophthalmology	the students of	Faculty of Medicine,Skopje	Skopje, 2011		
		4	Nancy B.Carlson,Daniel Kurtz	"Clinical procedures in ophthalmologic examination"	Tabernakul,Skopj e	2011		
		5						
		6						
		7						
		Addit	onal literature					
			Author	Title	Publisher	Year		
	22.2	1	Group of Authors	Ophthalmology (12 books)	American Academy of Ophthalmology (AAO)	2012		
		2	Jack. J. Kanski	Clinical Ophthalmology	Vth Edition,Datastatu s	2003		

		3	Dzajkovska E,Dimovska V.	_	laucoma onography	- J	ofisken,Skopje	2005	
		4	BogoevM, Dimovska V.	re	iabetic tinopathy, onography			2000	
		5			onography				
1.	Course	e title			FAMILY MED	ICIN	E- CLINICAL P	RACTICE	
2.	Code				MED 616				
3.	Study program				General Medicine				
4.		•	s of the study pto department)	ogram	UKIM Medical H Department for H		-		
5.	Degree cycle)	e of edu	cation (first, i.e secon	ıd	Integrated cycle				
6.	Academic year/semester			Sixth/XI- XII	7.	Number od ECTS credits	2		
8.	Teacher			Head of the Department: Prof dr Goran Petrovski *The teaching is performed by all members of the Family Medicine Department					
9.	Prereq	uisites f	or registering subject		Credits(passing e	exam	) from family med	icine	

10.		<b>:</b> the work in the ambulance and integrating the acquired ic principles of family medicine in solving the problems
11.	<ul> <li>Assign appropriate diagnorincidence and prevalence</li> <li>Explain the specifics of the medicine</li> <li>Conduct a consultation</li> <li>get acquainted with running</li> <li>conducted a consultation as solve cases where there is</li> <li>discuss with the educator of demonstrates empathy and promote health promotion</li> <li>Clinical practice will be organized hours in ambulance under the super organised during the XI and XII set</li> </ul>	rimary health care system s are addressed in primary health care ostic procedures and treatments according to the of diseases e patient – doctor's relationship that are unique in family ng a chronically ill patient and proposed initial therapy for acute illness clinical insecurity on the ethical aspects of family medicine
1.	Subject	ONCOLOGY
2.	Code	MED 423
3.	Study Program	General medicine

4.	Organizing Institution ( Unit,	•		odius University, Faculty of	Medicine			
	Institute, Chair, Department)	Department	of Once	ology and Radiotherapy				
5.	Educational degree (first or second cycle)	Integrated 6-	year st	udy				
6.	Study year /semester	Forth (IV)/Eight (VIII)	7.	Number of credits	2			
8.	Responsible teacher	Prof. Snezha	na Smi	chkoska, Prof. Valentina Ku	stevska			
9.	Preconditions:	Enrolled eight semester						
10.	Teaching goals of the study program (competencies):							
	Students to become acquainted with:							
	<ul> <li>terminology in oncology</li> </ul>							
	- epidemiology of cancer, canc	er prevention	and ear	ly detection				
	- diagnostic procedures and sta	ging						
<ul> <li>principles of cancer surgery, chemotherapy, radiotherapy, hormonotherapy, target therapy, immunotherapy, principals of multidisciplinary treatment, side effects of specific oncological treatments</li> </ul>								
	- special problems in oncology	and oncologic	cal eme	rgencies				
	- clinical characteristics, diagno	osis and treatn	nent of	the most common solid mal	ignant			
	diseases (breast cancer, lung cancer, genitourinary malignancy, gynaecological malignancy, gastrointestinal cancers, head and neck cancers, CNS cancers, skin cancers, malignant melanoma, bone and soft tissues cancers)							

11.	1. <b>Content of the programme –theory (T) and</b> Module1 3T (theory)+2P (practise) classes	practise (P):
		1 1, 1,
	- Introduction to oncology, oncological terminol	ogy and cancer related terms
	- Epidemiology of cancer	
	- Cancer prevention, screening, early diagnosis	
	<ul> <li>Pathology and molecular biology of cancer</li> </ul>	
	<ul> <li>Approach to cancer patient</li> </ul>	
	<ul> <li>Tissue diagnosis in cancer</li> </ul>	
	- Evaluation of patient, imaging modalities, stag	ing
	Module2 3T (theory)+5P (practise) classes	
	1. Therapeutic modalities in oncology	
	<ul> <li>Surgical oncology</li> </ul>	
	– Radiotherapy	
	– Chemotherapy	
	– Hormonotherapy	
	– Target therapy	
	– Immunotherapy	
	2. Multidisciplinary approach	
	3. Acute and chronical side effects of cancer the	erapy
	Module3 3T (theory)+5P (practise) classes	
	1. Malignant tumours of thorax	
	– Lung cancer	
	– Breast cancer	
	<ul> <li>Mediastinal tumours</li> </ul>	
	Module4 5T (theory)+5P (practise) classes	
	<ul> <li>Genitourinary malignancy</li> </ul>	
	<ul> <li>Gynaecological malignancy</li> </ul>	
	- Gastrointestinal cancers	
	<ul> <li>Head and neck cancers</li> </ul>	
	– CNS cancers	
	- Skin cancers and malignant melanoma	
	- Bone and soft tissues cancers	
	Module5 3T (theory)+3P (practise) classes	
	1. Special problems in oncology and oncologica	al emergencies
	<ul> <li>Raised intracranial pressure</li> </ul>	
	<ul> <li>Spinal cord compression</li> </ul>	
	<ul> <li>Bone marrow suppression</li> </ul>	
	<ul> <li>Malignant effusions</li> </ul>	
	- Superior vena cava obstruction	
	– Hypercalcemia	
	<ul> <li>Paraneoplastic neurological syndromes</li> </ul>	
	- Cancer vein thrombosis	
	2. Cancer pain	
	3. Terminally ill patient	
12.	2. <b>Methods of studying:</b> Theoretical and interactive	lectures organised in 5 thematic modules
	concurently with practical group work and exercises	-
13.		
14.	8	theoretical course, practical course,
	seminars	
1.7		home individual learning
15.	5. <b>Forms of teaching</b> 15.1 Theoretical course	20 hours

	activities	15.2	Practicals course, team work, seminars	25 hours
16.		16.1	Practice	

	Other	forms	of	16.2	Individual tasks		
	activit	ties		16.3	Individual (home	) 15 hours	
					learning		
17.	Assess	sment o	of knowledg	ge:			points
	17.1	Tests					minmax.
					Continual assess		20-32
					Included Module	1,2 and 3	
		Final	exam		Subject: Included Module	4 and 5	
					Written exam (tes 29-49 points	t)+Practical exam+ Oral exar	n total
					minmax.		
					Written exam		21-37
					points		0.40
					Practical and Ora	exam	8-12 points
	17.2 Seminar paper/project (presentation: writt and oral)		ritten	Seminar works			
	17.3		e participati	on		minr	nax.
				Theoretical cours	e points	1-3	
					Practical course	points	10-16
18.	Gradir	ng criter	ria:		up to 59 points		5 (five) F
	(point	s/grade	)		60 to 68 points		6 (six) E
					69 to 76 points		7 (seven) D
					77 to 84 points		8 (eight) C
					85 to 92 points		9 (nine) B
				9	3 to 100 points		10 (ten) A
19.	Requirements for signature and taking the final examCondit 7. In mi8. In mi9. If			<ol> <li>7.</li> <li>8.</li> <li>9.</li> </ol>	In order to take the signification order to take the signification of the second secon	sessment of knowledge: nature, the student should ob h theoretical and practical co al exam, the student should o continual assessment. btained the minimum points he/she will be obligated to pa	urses. btain the in the
20	Longu	aga of :	notmotion		edonian		
20. 21.			nstruction onitoring			classes and interactive man	ticination in
21.	the	a or mo qualit	-		etical and practical le	classes and interactive par sons.	nerpation in
	teachin	ng proc	ess		_		
22.	Literat						
		Mand	atory textbo	ooks			
			Auth	or	Title	Publisher	Year
	22.1	1	Vincent d	eVita	Cancer: Principles and Practice of	10th edition AVAILABLE ONLINE	
					Oncology	LWWHealthLibrary.com/c	n

2	David J. Kerr, Daniel G. Haller, Cornelis J. H. van de Velde, and Michael Baumann	Oxford Textbook of Oncology Third Edition	Oxford Textbook	2016
3	Снежана Смичкоска Валентина Крстевска	Авторизирани предавања	Поместени на страницата на Медицински факултет	2017

		4	Валентина Крстевска Снежана Смичкоска	Радиотер канцери н главата и		Медицински факултет	2015		
	22.2	Addit	ional literature Author	Tit	10	Publisher	Year		
1.	Subje		Autio	110		C HEALTH - CLINICAL			
1.	Subje				PRACT		4		
2.	Code				MED-61	17			
3.	Study	/ Progr	am		General	medicine			
4.	0	0	Institution (Unit,	Institute,		Faculty of Medicine			
	Chair	, Depa	artment)			Epidemiology and Biostat			
						Occupational Medicine, C			
_	<b>F</b> 1			1	Social Medicine, Chair of Hygiene				
5.	cycle		degree (first or se	econd	Integrated cycle				
6.	Study	year/s	semester		Sixth (VI) year / Eleventh - twelfth (XI-XII)				
					semester				
7.	Num	ber of I	EKTS credits		4				
8.	Respo	onsible	e teachers		Prof. d-rvesna Veljic Stefanovska , Prof d-r				
					Jovanka Karadzinska Bislimovska, Prof d-r				
					Fimka Tozija, Prof d-r Mihail Kochubovski*				
					the education process is performed by all members of the Cathedra				
9.	Preco	nditio	ns for starting the	subject	Acquired credits (passed exams) from the				
	11000	101010	is for starting the	subject	following subjects: Social Medicine,				
					Hygiene,				
					Epidemi	ology and Biostatistics and	1		
					-	ional medicine			
10.		00	bals of the study p	•	1				
	-				<b>U</b> .	practice of public health in			
	ot hy	giene,	social medicine, o	occupation	al medicii	ne, epidemiology and biost	atistics		

11.	Contents of the study program:
	Hygiene
	<ul> <li>Application of the basic methodological approach for eco-toxicological risks assessment</li> <li>Exposure and health risk assessment from physical, chemical, biological and radiological agents in the environment</li> <li>Regulations, standards and food safety monitoring</li> <li>Nutrition and physical activity, public health importance through practical examples</li> <li>Strategies and policies to determine priorities and risk management in the field of environmental health, nutrition and food safety</li> </ul>
	Social Medicine
	<ul> <li>Evaluation of health, individual and community health</li> <li>Health care system - organization and evaluation</li> <li>Priority public health problems, risks, strategies, policies</li> <li>Health promotion and disease prevention</li> <li>Health Policy, Health Economics and Management: analysis</li> </ul>

	Occupational Medicine										
	<ul> <li>occupational exposition</li> <li>Occupational disease (diagnostic, therapeer practice</li> <li>Work ability assess</li> <li>Preventive Strategy</li> </ul>	ure on the ses, work putic prod ment, ab y - levels and inters e) ic health	he health k-related cedures) osence, di and mea sectoral a preventio	of exposed wor diseases and in - preventive and sability, rehabil sures; workplac pproach); legis	juries at work: clinical d public health aspects in litation the health promotion lative aspects (examples an						
	Epidemiology and Biosta	tistics									
	Epidemiological me	<ul> <li>Epidemiological principles, models, epidemic process, prevention measures</li> <li>Epidemiological methods (descriptive, analytical, experimental)</li> <li>Epidemiological features of certain communicable and non-communicable</li> </ul>									
	<ul> <li>Biostatistics</li> <li>Descriptive statistic</li> <li>Analytical methods</li> <li>Vital statistics</li> </ul>		ods								
	The study program will be Four courses will be organi Students are organized in g	ized duri groups co	ing the X	and XII semes of 2-5 members	ster.						
		tudent's	daily act	ivities will be r	e different departments and egistered in a separate						
2.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> </ul> </li> </ul>	tudent's will be v ork on n lving ng and ca puter sim cientific	daily act verified b nentor's p ase resolv nulation literature	ivities will be r y a mentor's sig orinciple, indivi ying of different , consulting, ess	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers						
	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> <li>Evaluation of the so</li> <li>Problem resolving of</li> </ul> </li> </ul>	tudent's will be w ork on n lving ng and ca puter sim cientific designed	daily act verified b nentor's p ase resolv nulation literature	ivities will be r y a mentor's sig orinciple, indivi ying of different , consulting, ess s, discussion, p	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers						
2. 3. 4.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> <li>Evaluation of the so</li> </ul> </li> </ul>	tudent's will be w ork on n lving ng and ca puter sim cientific designed earning	daily act verified b nentor's p ase resolv nulation literature l seminars hours	ivities will be r y a mentor's sig orinciple, indivi ying of different , consulting, ess	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation						
3.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> <li>Evaluation of the so</li> <li>Problem resolving of</li> </ul> </li> <li>Total available amount of I Distribution of the available</li> <li>Types of educational activities</li> </ul>	tudent's will be w ork on n lving ng and ca puter sim cientific designed earning	daily act verified by nentor's p ase resolv nulation literature l seminars hours ng time Practica (laborate seminar	ivities will be r y a mentor's sig principle, indivi- ring of different , consulting, ess s, discussion, pr 120 hours 80 hours prac 40 hours hom l work pry, clinical), s	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation tical work e learning 80 hours						
<u>3.</u> 4. 5.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> <li>Evaluation of the so</li> <li>Problem resolving of</li> </ul> </li> <li>Total available amount of I Distribution of the available</li> <li>Types of educational activities</li> <li>Other types of activities</li> </ul>	tudent's will be v ork on n lving ng and ca puter sim cientific designed earning e learning 15.1.	daily act verified by nentor's p ase resolv nulation literature seminars hours ng time Practica (laborat	ivities will be r y a mentor's sig principle, indivi- ring of different , consulting, ess s, discussion, pr 120 hours 80 hours prac 40 hours hom l work pry, clinical), s	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation tical work e learning						
<u>3.</u> 4.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, we groups, problem so</li> <li>Processing, reporting practice</li> <li>Data analysis, complexed and the second s</li></ul></li></ul>	tudent's will be v ork on n lving ng and ca puter sim cientific designed earning e learning 15.1.	daily act verified by nentor's p ase resolv nulation literature l seminars hours ng time Practica (laborate seminar	ivities will be r y a mentor's sig principle, indivi- ring of different , consulting, ess s, discussion, pr 120 hours 80 hours prac 40 hours hom l work pry, clinical), s	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation tical work e learning 80 hours						
3. 4. 5.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, w groups, problem so</li> <li>Processing, reportin practice</li> <li>Data analysis, comp</li> <li>Evaluation of the so</li> <li>Problem resolving of</li> </ul> </li> <li>Total available amount of I Distribution of the available</li> <li>Types of educational activities</li> <li>Other types of activities</li> </ul>	tudent's will be v ork on n lving ng and ca puter sim cientific designed earning e learning 15.1.	daily act verified by nentor's p ase resolv nulation literature seminars hours ng time Practica (laborato seminar Home le	ivities will be r y a mentor's sig orinciple, indivi- ring of different , consulting, ess s, discussion, pr 120 hours 80 hours prac 40 hours hom l work ory, clinical), s earning	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation tical work e learning 80 hours 40 hours points min max.						
3. 4. 5.	<ul> <li>principle by the professors mentors are taking place. S "Diary of activities"which</li> <li>Methods of learning: <ul> <li>Interactive work, we groups, problem so</li> <li>Processing, reporting practice</li> <li>Data analysis, complexed and the second s</li></ul></li></ul>	tudent's will be v ork on n lving ng and ca puter sim cientific designed e learning e learning 15.1. 16.1.	daily act verified by nentor's p ase resolv nulation literature l seminars hours ng time Practica (laborate seminar Home le	ivities will be r y a mentor's sig orinciple, indivi- ring of different , consulting, ess s, discussion, pr 120 hours 80 hours prac 40 hours hom 1 work ory, clinical), s earning nar work pr	e different departments and egistered in a separate gnature. idual work, work in small t segments of public health says, seminar papers ublic presentation tical work e learning 80 hours 40 hours points						

	17.3	Active p	participation		Practical	l course * poi	min m nts 24 - 4	
					hours (fr Presence The stuc each sub biostatis	ourse is organize all time). e: 2 points; activ lent should get a oject of the pract tics, occupationa e, hygiene)	ity: 2 points minimum 6 po ice (epidemiolo	oints of ogy and
18.	Knowl	edge as	sessment	The student	1	btain minimum	60 points. Stud	ent
	criteria	a: (points/	/grade) a	issessment	is a descr	iptive (passed).		
19.	signatı	final exam exam, the obtain m				a signature and should attend th points. cess to the final o	e practical wor	k and
20.	Langu	age of the	e course	English				
21.	Metho		luation of	Anonyn	nous stude	ent's evaluation involved in the		
22.	Literat							
		Ma	ndatory text	books			1	
		No		Authors		Title	Publisher	Year
		1.		3. Wallace Rosenau-La	,	Public Health and Preventive Medicine	OEM Press Publication, Denver- New Orleans, USA Tabernakul, Skopje	2008 2011
		2.	M, Kend Ristovsk			Hygiene and environmenta l health	Faculty of Medicine, Skopje	2008
	22.1	. 3.		D, Kochu rovski V, a G.	bovski	Food Hygiene and Nutrition	Faculty of Medicine, Skopje	2008
		4.	Tozija F Gudeva- Kasapino	), Spasovsk , Kosevska Nikovska I ov B, Kism ka M, Laza /ska V.	E, D, nan-	Social Medicine	Faculty of Medicine, Skopje	2012
		5.	J, Minov	vska-Karad 7 J, Ristesk xi D, Stole:	a-Kuc S,	Occupational Medicine	University "Sts. Cyril and Methodius", Skopje	2011
		6.	Stikova I	E.		Occupational Medicine	Faculty of Medicine, Skopje	2012

	<ol> <li>Danilovski D, Orovchanec N, Vasilevska K, Taushanova B, Velikj-</li> </ol>	Biostatistics	Faculty of Medicine, Skopje	2005
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			Stefanovska	V Icia	novska					
			R, Ivanovsk							
			Zdravkovsk							
			Ι							
		8,	Danilovski	vchanec	Gene			Faculty of	2007	
			N, Vasilevs		-	emiolo	og	Medicine,		
			Taushanova ValiliiStafa		B, V	У			Skopje	
			VelikjStefa Isjanovska	lovska	V,					
			R, Ivanovska	a-Zafiro	ova B.					
			Zdravkovsk							
			Ι							
		9.	Danilovski		vchanec	Spec			Faculty of	2007
			N, Vasilevs Taushanova		р	-	emiolo	og	Medicine,	
			VelikjStefa		B, V,	У			Skopje	
			Isjanovska	io v sku	• ,					
			R, Ivanovsk	a-Zafiro	ova B,					
				lravkovska M, Pavlovs						
		10.	I Tulahinalii 7	vilcovo	The l	Jam		Studentalri	2003	
		10.	Tulchinski 7 E.	vikova	-	c Hea	lth	"Studentski zbor",	2005	
			2.			ductio		Skopje		
					to 21	st		15		
						Cent	ury			
			tional literatu	re	<b>T</b> :4	1.			D-11:1-1	V
		No.	Authors Robert H.	Enido	Title				Publisher Academic	Year 2011
		1.	Fries,	Health	demiology for public				Press,	2011
			Thomas		-				Skopje	
			A. Sellers							
	22.2.	2.	Lloyd F.		nistration	of	Put		Academic	2011
			Novik, Conthia D	Health		nciples		for	Press,	
			Cynthia B. Morrow,	popula	gement bas	sed on			Skopje	
			Glen P.	popun	ation					
			Mays							
1	a t				0.5.7					
1.	Subject				ORTHO		ICS			
2. 3.	Code Study Pro	<i>ано 1</i>			MED 51 General		ino			
3. 4.	Study Pro	C	tution ( Unit					edici	ne Departme	nt
т.						•		culti		111
		e, Chair, Department)			of Orthopedics					
5.	Education	al d	U (			Integrated cycle				
5.			egree (firs		Integrate	j				
5. 6.	Education	cle)		ι ΟΙ	Fifth/IX		7.		nber of	3
6.	Education second cyc Study year	cle) r /semo	ester	. 01	Fifth/IX			crec	lits	-
6. 8.	Education second cyc Study year Responsib	:le) r /semo le teac	ester		Fifth/IX Prof. Dr.	. Anas	tasika	crec Popo	lits oska, MD, Pł	ıD
б.	Education second cyc Study year	:le) r /semo le teac	ester		Fifth/IX Prof. Dr.	. Anas	tasika	crec Popo	lits	ıD

10.	Teaching goals of the st	udy pro	ogram (	competencies):								
					ing rational diagnosis and							
					genesis of the diseases.							
		be capal	ble of cli	nical assessment a	nd treatment of muscle-skeletal							
	system diseases											
	• Contemporary clinical assessment should be founded on a rational diagnosis, especially on clinical examination, which can result in other examinations (laboratory,											
	especially on clinical examination, which can result in other examinations (laboratory, ultrasound, radiographic, computer etc).											
	<ul> <li>Contemporary treatment will be done according to the newest achievements in</li> </ul>											
	medicine based on			le according to the	newest achievements in							
11.	Contents of the study p											
	Theoretical course:	- °8- ••	•									
	Basics in orthope	dic surg	erv									
	Congenital disord	-	•	and joint system								
	Inflammatory dis			•								
	<ul> <li>Degenerative dise</li> </ul>											
	Normal and distu			5								
	Tumors of the mu		-									
					r system (neck, spine, pelvis,							
	thorax, shoulder,	-			· · · · · · · · · · · · · · · · · · ·							
	Canalicular syndr				remities							
	Orthopedic device		i the up									
	Practical course:											
	Practical applicat	ions and	l clinica	l skills in orthope	edics							
				-	lower extremities							
	Clinical signs and		-									
	Clinical signs and		-	-								
	Practical course of		-		5							
	Measurements an	-		nosis of spine def	formities							
					nt of congenital foot							
	deformities in chi	ldren			C							
	Clinical signs and	l tests fo	or early	diagnosis of cong	genital hip dysplasia in							
	children		5	0								
	Clinical approach	for dia	gnosis c	f soft tissue and	bone tumors							
	Introduction into		0									
			2	1								
12.	Methods of studying: Ir	teractiv	e lectur	ing, practical edu	cation/seminars							
13.	Total no. of hours:			120 hours								
14.	Distribution of the avai	lable tir	ne	60 hours lecturi	ng, practical							
				education/semin	01							
				hours home stu	dying							
15.	Type of educational	15.1	Lectu	res-theoretical	30 hours							
	activity		course									
		15.2	Practi	cals (laboratory,	25 hours							
			clinica	· · ·								
				ars, team	5 hours							
			work	· · · · · · · · · · · · · · · · · · ·								
16.	Other types of	16.1		t assignments	0 hours							
10.	activities	16.2		dual tasks	0 hours							
		16.3		studying	60 hours							
17	Aggggmant of log and -1		riome	studyillg								
17.	Assessment of knowled	ge:			100							
	points											

17.1	Tests	Continuous tests	minmax. total points
			26-45
	Final exam	Subject: Orthopedics	
			minmax. Practical
		exam	26-45 points
		Oral exam	17-29 points

	17.2	Seminar work/project (presentation: written and oral)	works	minmax. Seminar points				
	17.3	Active participation	Theoretical course Practical course * presence during theoretic ed	minmax. points 5-10 points 12-16 ducation:				
			51% - 60% - 5 points; 61% - 70% - 6 points; 71% - 80% - 7 points; 81% - 90% - 8 points; 91% -100% -10 points.					
			<ul> <li>** practical education (6 exercises in duration of 4 hours):</li> <li>Presence: 2 points</li> <li>Activity during exercises: 2 points.</li> <li>*** continued examination – 1 written test</li> </ul>					
			Theoretic elements in orthopedics $-(26-45 \text{ points})$ **** <b>final examination:</b> practical + oral $-(17-29 \text{ points})$ Practical part (examination of a patient, differential diagnosis and therapy, according to the catalogue of sk + oral part of the examination where the integrative					
			knowledge is verified. (For the marks: $6 = 17-19$ point points, $9 = 25-26$ points, $10 = 2$	· · · · · · · · · · · · · · · · · · ·				
18.	criteri	ledge assessment a: ts/grade)	up to 59 points 60 to 68 points 69 to 76 points 77 to 84 points 85 to 92 points 93 to 100 points	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A				
19.	signat final e		Conditional criteria for assess order to get a signature, the stu- minimum points in both the the courses and seminars and to w In order to take the final exam the continuous tests or win mi of the continuous tests; than the the final exam. The grade in the comprehensive to the grading table, and on the obtained in all of the activities exam.	ssment of knowledge: In udent should obtain heoretical and the practical vin minimum of total points. In the student should pass nimum 60% of total points he student may aproach to we exam is given according e basis of the sum of points				
20.	Langu	age of the course	English					

21.			valuation of education	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	Litera	ture						
		Mandatory textbooks						
			Author		Title	Publisher	Year	
	22.1	1	A. Greenspa	an	Orthopedic	Government of	2012	
	22.1				Imaging -A	RM		
					Practical			
					Approach			

		2	B.J.Zitelli, H.V. Davis	Atlas of Pedia Physical Diagnosis (Chapter – Orthopedics 781-867)		overnment of M	2011
		3	R.E.Rakel	Textbook of Family Medic Orthopedics. 857915 p.		overnment of M	f 2011
		Addit	ional literature				
			Author	Title		Publisher	Year
		1	Group of authors	Authorized lectures of the Department	2		2009
		2	I. Rushkovski	Orthopedics		ledicinska aklada Zagreb	1976
	22.2	3	P.B.Pynsent, J.C.T.Fairbank, E.J.Carr	Outcome Measures in Orthopedics a Orthopedic Trauma	und		
		4	Zafirovski Gj, Grkova V, Kamnar J, Nojkov J, Poposka A, Bozinovski Z, Samardziski M et al	Children's Orthopedics	K	Lultura Skopje	2003
		5	Z. Temelkovski	Shoulder Join	t		
		6 A. Poposka Ultrasound Diagnostic Child's Hi Congenita		Ultrasound Diagnostics o Child's Hip Congenital Dysplasia	K	Costa Abrashevi Dhrid	c 1995
1.	Title o	f the tea	ching subject	BASIC PRIN		S OF THE S	CIENTIFIC
			AND INVESTIGATION WORK				
2.	Code			MED-226 General medici	•		
3.	Study program			General medici УКИМ – Medi		1437	
4.	Organizer of the study program (Unit/ Institute, Cathedra, Department)			Cathedra of Int			
5.	Degree of education (first i.e. second cycle)			Integrated cycle			
6.	cycle) Academic year/semester		Second /IV	7.	7. Number of EKTS credits		

8.	Professors	Responsible teacher:Prof. Dr Ljubica Georgievska-IsmailTheoretical teachers:Prof. Dr. Ljubica Georgieva-IsmailProf. Dr. Olivera Stojcheva-TanevaProf. Dr. Biljana JaneskaProf. KaterinaTosheska-TrajkovskaProf. Dr. MarijaValvukis Practice teaching:
		Trajkovska Prof. Dr. Marija Valvukis <i>Practice teaching</i> : Prof. Dr. Marija Valvukis

					na Gerasimovska-Kitanovska					
					heska-Trajkovska					
				ell. Dr, Irina Pav Dr. Lidija Poposł						
				oc. Dr/ Zhanina						
				nja Smilevska, p						
9.	Preconditions for starting th	e subject		ed semester						
10.	Goals of the subject program	m are getti	ng acquair	ted with:						
	• The essence and the meaning of scientific investigation and the principles of the scientific method;									
	• The components of the s	scientific 1	process and	l its understand	ling;					
	• Medicine based on evide	-			<i>o</i> ,					
	<ul> <li>Discovering of the source</li> </ul>				ct and acquisition of basic					
	knowledges for a critical			0 1 /	et and acquisition of basic					
	Basic principles for scient				aning of the authorship.					
					nd/or presentation of the					
	results from the scientif			inouncement a	nu/or presentation of the					
11.	Contents of subject program		ation.							
11.	Theoretical course (10 hor									
	• Introduction of the subj		tions, exp	ectations.						
	Science and scientific m	0	-		and principles.					
	<ul> <li>Terminology in science,</li> </ul>									
	Design of the scientific-			0						
	Medicine based on evide	•	- /							
	Usage of bio-medical based on evidence of the second									
	• Ethics in the scientific-i			nd responsible	attitude in science					
	Elaboration of scientific	-		-						
	presentation.	paper and	i preparati		ion, style, language and					
	-	the of the		anar Ducation	(19 hours)					
	<ul> <li>Critical estimation of pa</li> <li>Practice 1. How to choos</li> </ul>									
	resources on internet by									
					gation – practice of the assigned					
	themes with a special ret	•								
		•	discussior	n on assigned ex	camples (plagiarism, conflict of					
	interest, prevention of co		al review	of the narts of t	he paper (title, design, material					
	and methods, results, dis				ne paper (inic, design, material					
	- Practice 5. Quotation of l		-		on assigned material,					
12.	Methods of learning: Intera	ctive lectu	res, practic	e, panel discuss	sion					
13.	Total available amount of le	earning ho	urs	30 hours (+ p	roject tasks by choice)					
14.	Distribution of the available	e learning								
15.	Forms of teaching	15.1.		- theoretical	10 hours $+$ 2 hours test					
	activities	4.7.5	teaching	~ .						
		15.2.	Practice,	Seminars	18 hours					
16.	Other forms of activities	16.1.	Practice							
		16.2.	Independ	lent tasks	By choice					

			16.3. I	Home learning				
17.	Way of	f estimation	LL	Points				
	17.1	Continuous tests		Mini-quiz after practical lecture – total 5 (for arch				
				exact answer is given 1	.5 point)			
						Min. – max.		
						23 - 38		
	17.2	Final exam		Written:		min. – max;.		
						27 - 45		
				(30 questions: 1.5 point is given for each exact answer				
				Minimum 60% exact ans	wers)			
	17.3	Seminar	work/projec	ct There are bonus points for elaboration of project				
		(presentation: oral)	10	task/publicly presented for those who have reported at				
				the beginning of the lect	ture (5 points))			

	17.4	Act	ive pa	articipation		Pr	Theoretical lecture*: actical lecture: presence*:	Minmax. 4 - 6 4 - 6		
					*	Presence of min	nin 70% hours= 4 n. 80% hours= 5 n. > 90% hours= 6			
18.	Criteria	a for	assess	sment	Up	o to 59 points		5 (five) F		
	(points	/marl	k)	-	-	) to 68 points		6 (six) E		
				-	Up to 69	to 76 points		7 (seven) D		
				-	Up to 77	7 to 84 points		8 (eight) C		
					Up to 85	5 to 92 points		9 (nine) B		
					Up to 93	to 100 points		10 (ten) A		
19.	Criteria			•			e student should win minir			
	-	ire an	d tak	ing the final	from his	/her attendanc	e at theoretical and practical	al lectures.		
	exam				The second o	for the orthin	at is formed seconding t	a the nation		
							ect is formed according to of the points from all the a			
						table, based on the sum of the points from all the activities, the continuous testing and the final exam.				
20.	Langua	age of	n whi	ch the lectur		Macedonian, if necessary on English				
	is perfe					, , , , , , , , , , , , , , , , , , ,				
21.	<b>^</b>			ation of the	Anonymou	us student's evaluation of the subject, teachers and				
	quality	of ed	lucati	ion		ors involved in the educational activities				
22.	Literat	ure								
		Mandatory literatu			iture					
	22.	1.				ectures by Prof. Dr. Katica Zafirovska and Prof. Dr. Ljubica				
				Georgievsk						
	22.2	2.		litional litera						
			1.			trade. Faculty of Philosophy, UKIM, 2003.				
			2.	Kultura, 20	03		ntific work in medicine. Sk			
			3.			paper – to writ man Genetics,	e and public. Skopje, Instit	tute for		
1.	Subje	ct		1111110-01	ology allu fiu		IVSIOLOGY 1			
2.	Code	ι				MED 223	1151010011			
3.		Pro	ram			General Me	dicine			
4.	-	Study Program Institution					and Methodius Universi	ity, Medical		
		(Unit, Institute, Chair, Departme			tment)	•	partment of Pathophysiolo	•		
5.	Degree of education (first				,		5-year study	~~		
	or sec									
6.	Study	Study year/semester				Second (I Fourth (IV)				
8.	Respo	onsib	le tea	acher			Prof. Daniela Pop Gjorcheva, PhD, MD			
9.	Preco	nditio	ons			Signature o	f Physiology 1			

10.	Teaching goals:
	• Object and methods of pathophysiology (exploration of the ethiology and the pathogenesis of diseases on experimental models and by clinical methods)
	<ul> <li>General mechanisms of compensation and decompensation in disturbancies caused</li> </ul>
	by the pathological influence of external factors
	• Factors of the general reactivity and the immunity, their disturbances and their relationship with external medium
	relationship with external medium
	Mechanisms of initiation and manifestation of pathological situations with general
	functional disturbances
	Mechanisms of metabolic disorders
	<ul> <li>Pathophysiological mechanisms of the hematopoetic system's diseases</li> </ul>

11.	Brief content:										
	<ul> <li>Theoretical course:         <ul> <li>health, desease, death; ethiology and pathogenesis, compensation, decompensation, sufficiency, insufficiency</li> <li>pathogenic influence of the enviromental (external) factors (physical, chemical, biological and psychical factors)</li> <li>general reactivity and immunity, inheritance and environment</li> <li>disturbances of innate immunity (complement, phagocytosis, interferon)</li> <li>disturbances of adaptive immunity, hypersensitivity, immunodeficiency, autoimmunity, transplant reaction</li> <li>disturbances in pathological situations with general functional disorders (hypoxia, fever, fatigue, peripheral circulatory disorders), pathophysiology of th oldness</li> <li>disturbances of the energetic metabolism and of the protein, carbohydrate,lipid, water, electrolyte and vitamin metabolism • disturbances of hematopoetic system</li> </ul> </li> <li>Practical lessons:         <ul> <li>experimental practices on experimental animals, demonstrations on students, presentation of in vitro and in vivo methods</li> </ul> </li> </ul>										
12.	Methods of studying: Classic - Ex cathedra teachi independent study by using				es and practical trainings,						
13.	Total available time:			210 classes							
14.	Organization of the course 105 classes - theoretical course, practic course, seminars 105 classes - home individual learning										
15.	Forms of teaching activities	15.1.	Theoretic	cal course	45 classes						
		15.2.	Practical Seminars		60 classes						
16.	Other forms of activities	16.1.	Practice								
		16.2.	Individua	al tasks							
		16.3.	Individua	al (home) learning	105 classes						
17.	Method of assessment										
17.1	Tests	min – max									
------	-------	---									
		Continual assessment – 2 tests (written form)									
		1. Health, desease, death; ethiology, pathogenesis,									
		compensation, decompensation, sufficiency,									
		insufficiency. Pathogenic influence of the									
		enviromental (external) factors; General reactivity									
		and immunity; Disturbances in the course of									
		pathological conditions with general functional									
		disorders									
		18 - 30 points									
		<ol> <li>Disturbances of metabolism and peripheral circulation</li> <li>18 - 30 points</li> </ol>									
		Final exam: final test + oral examination									
		1. Final test: analysis of experimental models or tests for									
		disorders detection									
		6 - 10 points									

			experimental mod Complete exam - co (written form) plus fi exam - combination of	<ul> <li>2. Oral exam: theoretical discution for the application of experimental models or tests</li> <li>6 - 10 points</li> <li>Complete exam - combination of the failled exam (written form) plus final test and final oral exam Full exam - combination of the two failled exams plus final test and final oral exaam</li> </ul>		
	17.2	Seminar paper/project (oral/written presentation)	/ - /	min – max		
	17.3	Active participation	activities, including parti of knowlidge in order to Pointing of student's activity <u>Theoretical course (% of</u> • min.30% 1 pc • 31-70% 2 pc • 71-100% 3- p <u>Practical</u> 11 - The grade in the final exart and on basis of the sum of p	<ul> <li>31-70% 2 points</li> <li>71-100% 3- points</li> <li>Practical 11 - 15 points</li> <li>The grade in the final exam is given accrding to the grading table,</li> </ul>		
18.		g criteria / grade)	up to 59 points from 60 to 68 points	5 (five) F 6 (six) E		
			from 69 to 76 points	7 (seven) D		
			from 77 to 84 points	8 (eight) C		
			from 85 to 92 points	9 (nine) B		
			from 93 to 100 points	10 (ten) A		

19.	Requirement for signature and taking the final exam		The student is required to actively follow all of the planned activities. <b>Conditional criteria for assessment of knowledge:</b> In order to get a signature, the student should obtain minimum points in both theoretical and practical courses. In order to take the final exam, the student should obtain the minimum points in the two continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.				
20.	Language o	of instruction	English				
21.		monitoring the eaching process	Attendance of students to classes and interactive participation in theoretical and practical lessons.				
22.	Textbooks	T					
		Mandatory					
		1. Vaskova O,		General	RC Copy,	2013	
			, Pop Gjorceva	pathological	Medical		
		D, Miladino	,	physiology	faculty,		
		-	Majstorov V:		Skopje	2010	
	22.1.	Vaskova O,		Practical course for	Boro	2013	
			, Pop Gjorceva	general and special	Grafika,		
		D, Miladino		pathological	Skopje		
		Loparska S		physiology			
	22.2.	Additional					
	22.2.	Auditional					

		1.	Gamulin S et all:		Pathophys	iology	Jumena Zagreb	2014
		2.	Tadzer I et all:.		General pathologic physiology		Medicinska knjiga, Beograd	1984
		3.	McPhee SJ, Ganong WF:	:	Pathophysic disease. An introduction clinical med	n to	Langee medical Books/McGr aw-Hill, New York	2003
1.	Subject			ΡΔ΄		OLOGY 2		
2.	Code			MED 311				
3.	Study Prog	ram		General Medicine				
4.	Institution			Ss Cyril and Methodius University, Medical			Aedical	
	(Unit, Instit	ute, C	Chair, Department)	Faculty, Department of Pathophysiology				
5.	Degree (first or sec		education ycle)	Inte	grated 6-year	study		
6.	Study year/	seme	ster	Thi Fift	rd (III) / h (V)	7.Number credits	of 4.5	
8.	Responsib	le tea	cher	Pro	f. Daniela Po	p Gjorcheva	a, PhD, MD	
9.	Preconditions				m of Physiol		ature of Physiol y 1	ogy 2,
10.	Teaching goals: To get introduced with mechanisms of initiation, course and outcome of heart and vascular, lung, kidney, digestive, liver and bile and endocrine disturbances							

11.	Brief content:					
	Theoretical course					
	<ul> <li>disturbances of care</li> </ul>		•			
	<ul> <li>disturbances of respiratory system</li> </ul>					
	<ul> <li>disturbances of rena</li> </ul>	-				
	disturbances of dige					
	disturbances of hep					
	disturbances of end					
				animals, demonstrati	ons on students,	
	presentation of in v	itro and in	vivo meth	ods		
12.	Methods of studying:					
	Classic - Ex cathedra teachi				s and practical trainings,	
	independent study by using	textbooks	, computer	-		
13.	Total available time:			135 classes		
14.	Organization of the course			60 classes - theoretical course, practical		
				course		
		1	1	75 classes - home in		
15.	Forms of teaching	15.1.	Theoretic	cal course	30 classes	
	activities					
		15.2.	Practical	,	30 classes	
			Seminars	6		
16.	Other forms of activities	16.1.	Practice		/	
		16.2.	Individua		/	
		16.3.	Individua	al (home) learning	75 classes	
17.	Method of assessment	1				
	17.1 Tests				min – max	
				ent – 2 tests (writte		
		1.	disturbance	es of cardiovascular,	respiratory and renal	
			systems			

		18 - 30 points
		<ol> <li>disturbances of digestive, hepatobiliar , haematopoetic and endocrine systems 18 - 30 points</li> </ol>
		18 - 30 points
		Final exam: final test + oral examination
		<ol> <li>Final test: analysis of experimental models or tests for disorders detection</li> <li>10 points</li> <li>Oral exam: theoretical discution for the application of experimental models or tests</li> <li>10 points</li> <li>Complete exam - combination of the failled exam (written form) plus final test and final oral exam</li> <li>Full exam - combination of the two failled exams plus final test and final oral exam</li> </ol>
17.2	Seminar	min – max
17.2	paper/project	/-/
	(oral/written	
	presentation)	

		Active participat	ion	Students are obliged to follow actively all recommendedactivities, including participation in the continuous testing ofknowlidge in order to get signaturePointing of student's activities:Theoretical course (% of presence)• min.30% 1 point• 31-70% 2 points• 71-100% 3-5 pointsPracticalI0 - 15 pointsThe grade in the final exam is given accrding to the grading tble, and on basis of the sum of points obtained in all of the activities					
18.	Grading			up to 59	-		5 (	five) F	
	(points /	grade)		from 60 to 68	points		6 ()	six) E	
				from 69 to 76 points		7 (seven) D		ven) D	
				from 77 to 84 points		8 (eight) C		ght) C	
				from 85 to 92 points		9 (nine) B		nine) B	
				from 93 to 100 points 10		(ten) A			
19.	Requiren			The student is required to actively follow all of the planned					
	and takin	ng the fin	al exam	activities.					
				<b>Conditional criteria for assessment of knowledge:</b> In order to get a signature, the student should obtain minimum					
				points in both theoretical and practical courses.					
				In order to take the final exam, the student should obtain the					
				minimum points in the two continual assessments; If the					
				student has not obtained the minimum points in the continual					
				assessments, he/she will be obligated to pass them before the					
				final exam.					
20.	Languag	e of instr	uction	English	English				
21.	Method of	of monito	oring the	Attendance of students to classes and interactive participation					
	quality of teaching process				in theoretical and practical lessons.				
22.	Textbool	ks							
		Man	datory						
	22.1.	1.		O, Miceva	-	ial pathological	RC Copy,	2012	
			Ristevska	S, Pop Gjorceva	]	physiology	Medical		

			D, Miladinova D, Lopa S, Majstorov V:	irska		faculty, Skopje	
			Vaskova O, Miceva Ristevska S, Pop Gjorc D, Miladinova D, Lopa S:		Practical course for general and special pathological physiology	Boro Grafika, Skopje	2013
			litional				
		1.	Gamulin S et all:		Pathophysiology	Jumena Zagreb	2014
	22.2.	2.	Tadzer I et all:.		General pathological physiology	Medicinska knjiga, Beograd	1984
	3. McPhee SJ, Ganong W		F:	Pathophysiology of disease. An introduction to clinical medicine	Langee medical Books/McGr aw-Hill, New York	2003	
1.	Name of t	the s	ubject	РАТ	HOLOGY 1		

2.	Code	MED-421				
3.	Study program	General medicine				
4.	Organizer of the study program (Unit, Institute, Cathedra, Section)	UKIM – Medical Faculty Department of Pathology				
5.	Degree of education (first or second cycle)	Integrated cycle				
6.	Academic year / Semester	Third / V7.No. of ECTS9credits9				
8.	Lecturer	Head of department: Liljana Spasevska *The lectures are conducted by all teachers at the department of Pathology				
9.	Conditions for enrolling the subject	Passed first part of the professional exam Fulfilled conditions for enrolment in the Vth semester				
10.	<ul> <li>Aims of the subject program (skills):</li> <li>The student will get to know the causes and general mechanisms of development of the diseases, as well as understand the structural and functional changes in the cells, tissues and organs by using the routine morphological and contemporary molecular techniques.</li> <li>While studing general pathology, the student will learn about the basic cellular and tissue responses to various pathological stimuli.</li> <li>In the special section, the sudent will learn the characteristic responses and changes during various pathological conditions of RES, cardiovascular and respiratory system.</li> <li>The student will learn the macroscopical and histological methods of analysis of the morphological changes in the organs, tissues and cells, based on which</li> </ul>					
11.	the diagnosis is established and therapy is planned. <b>Content of the subject program:</b> <b>Theory:</b> General pathology and part of the special pathology: • Cellular injury, adaptations and death • Hemodynamic disorders, thrombosis and schock					
	<ul> <li>Acute and chronic inflammation</li> <li>Tissue regeneration and reparation</li> <li>Specific inflammation</li> <li>Genetic diseases</li> <li>Immunopathology</li> <li>Environmental and nutritional diseases</li> <li>Pathology of the neoplasia</li> <li>Pathology of the reticuloendothelial system</li> <li>Pathology of the cardiovascular system</li> <li>Pathology of the respiratory system</li> </ul> <b>Practical training:</b> Learning the skills of microscopic analysis and diagnostics on histopathological					
	technique, interpretation of the ch and immediate cause of death; alto theoretical knowledge.	c analyses of surgical specimens, autopsy hanges with determination of the basic disease ogether, practical application of the acquired				
12.	methous of learning: Interactiv	ve lecutres, practical excercises / seminars				

13.	Total time available		270-135 th	0 classes per 1 credit= 270 eoretical classes, excercises nars= 135 classes home
14.	Distribution of the a	vailable ti	me	
15.	Forms of teaching activities	15.1	Lessons - theoretical lessons	- 75 classes
			Exercises (laboratory), seminars, team work	Exercises: 60 classes
16.	Other forms of	16.1	Project tasks	Facultative
	activities	16.2	Independent tasks	Facultative
		16.3	Home learning	135 classes
17.	Evaluation			points
	17.1 Tests	Cont 2 wri Cover The 1 1. 2. 3. colle 1. T 2. S 3. G 4. In 5. E	itten tests ring the following area <b>first colloquium:</b> Cellular injury, adapta Hemodynamic disorde Acute and chronic infl <b>oquium:</b> issue regeneration and pecific inflammation enetic diseases mmunopathology nvironmental and nutri	nowledge (colloquium): as of Pathology 1: ations and death ers, thrombosis and shock ammation <b>The second</b> reparation tional pathology points from one colloquium
	Final exam	Oral		min-max points 13 - 23 points 13 - 23

			** <b>Practical part (accord</b> <b>skills):</b> microscopic an histopathological slides, d analyses of surgical specim (for grade 10=21-23 points 8=17-18 points; for 7=15-10 The student must get at lea each part of the exam in or	lasia, RES, cardiovascular tem, as well as integrative aportant for understanding edical practice. ; for 9=19-20 points; for 6 points; for 6=13-14 points) <b>ding to the catalogue of</b> alysis and diagnosis of issection and macroscopic tens. ; for 9=19-20 points; for 6 points; for 6=13-14 points) ast the minimum points for
		<b>a</b> : /	Talled.	•
	17.2	Seminar / project (presentation: written and oral)	Seminar work	min - max 1 – 2 points
	17.3	Active participation	Theoretical lessons* Practical lessons**	min - max points 1 - 2 points 10 – 12
			* Attendence at the constinuit	1
			*Attendance at theoretical Up to 35% o points	lessons
			35%-70% 1 points	
			71%-100% 2 points	
			** Practical excercises (24 classes): Attendance: 0.25 points Colloquium on missed exer	groups of exercises lasting 4
18.	Critor	ria for grading	Up to 59 points	5 (five) F
10.		its / grade)	from 60 to 68	<u> </u>
	×r • • • •	, 0	points	
			from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C
			from 85 to 92 points	9 (nine) B
			from 93 to 100 points	10 (ten) A
L	1		r	

19.	Conditions for signature and for taking the final exam	<b>Conditional criteria:</b> <b>Conditions for a signature</b> In order to get a signature, the student has to attend the theoretical lessons, practical excercises and the seminars, and to achieve at least minimum points (1+10 points).
		<b>Conditions to take the final exam</b> In order to take the final exam, the student has to

20. 21.	Meth		iguage nonitoring f lectures	period get at for co the exami first, a final e The fi table, activit final e Macee Stude	nal grade is formed a based on the sum of ties, continuous chec exam. donian nt`s anonymous eva ers and associates in	parately (12+12 p ll number of points owledge (6+6 point student must ed periodical eva student may proce according to the gra the points earned eks of knowledge ar luation of the subje	oints), or s provided s); during take an luation(s) eed to the ading from all nd the
22.	Litera	ture		proce			
			atory literat	ure			
		No.	Autho		Title	Publisher	Year
		1	Kumar V, C RS, Robbir Robbins		Basic Pathology. 7th ed.	W.B. Sounders Company,Pilade lphia	2003
	22.1	2	Винај Н Абул Абас Нелсон Фа Ричард Ми	аусто,	Основи на патологијата според Робинс	Табернакул	2010
		3	Катедра патологија група авто		Избрани поглавја од Патологија 1	Медицински факултет, Скопје, УКИМ	2010
		4	Катедра патологија група авто	по а –	Практикум за хистопатолошки вежби	Медицински факултет, Скопје, УКИМ	2008
		5					
			ional literatu		m' · 1		\$7
		No.	Autho	or	Title	Publisher	Year
	22.2	1	Kumar V, Kotran Robins SL.	RS,	Osnovi patologije. 5 izdanje	Školska knjiga, Zagreb,	1994
		2	Kumar, Ab Fausto, Ast		Pathologic Basis of Disease, eight edition	Saunders	2010

		3	Робинс и	Па	атолошки	Saunde	ers	2006
			Котран	ат	лас	Elsevie	r	2010
						Академ	лски	
						печат		
		4	Робинс и Котран	Па	толошка основа	Apc	Ламина-	2015
				на	болестите - 8	публик	ации	
				ИЗ,	д.	•		
		5						
1.	Title o	of the S	ubject		PATHOLOGY	2		
2.	Code				MED-421			
3.	Study	progra	am		General Medicin	ne		

4.	Organizer of the study program (Unit, Institute, Cathedra, Section)	UKIM-Medi of Pathology		culty Departme	ent
5.	Degree of education (first, second cycle)	Integrated c	ycle		
6.	Academic year / Semester	III/VI	7.	No. of ECTS credits	8
8.	Lecturer	1	condu	nt: Liljana Spas cted by all teacl hology	
9.	Conditions for enrolling the subject		dition	f the profession is for enrolment	
10.	<ul> <li>Aims of the subject's program</li> <li>To enable learning of the ethiopa</li> <li>To enable to learning of the morn histopathologic changes in tissue</li> <li>To train the students for morphonintroduce the contemporary diag</li> <li>To introduce the basic clinical mathematical statements</li> </ul>	athogenetic m phologic basis es and organs plogic diagnos gnostic techni	s, mac in dis stics of ques.	roscopic and eases of all syst f the diseases, as	ems.
	Content of the subject program	m:			
	<b>Theory:</b> Pathology by systems • Pathology of the digestive system • Pathology of the liver, gallbladde • Pathology of the urinary system • Pathology of breast • Pathology of the endocrine syste • Pathology of the central nervous • Pathology of the genital system • Pathology of skin • Pathology of the locomotion system	er and pancrea em system	as		
	<b>Practical training:</b> Learning the skills of microscopic a slides, dissection and macroscopic Learning the manual skills of autop disease, complications of the main cause of death.	analyses of su psy including	ırgical detern	specimens. nination of the	main

Learning methods: Interactive lectures, practical exercises/seminars

13.	Total time available			hours 120 hours	o hours for 1 credit = 240 lectures, exercises eminars + 120 hours
14.	Distribution of the tota	l time			
15.	Forms of teaching activities	15.1	Lecture theoret	es- ical teaching	60 hours
		15.2	Exercis (labora semina work	tory),	60 hours
16.	Other activities	16.1	Project	S	Facultative
		16.2	Indepe	ndent tasks	Facultative

			16.3	Homework	120 hours	
17.	Gradi point	0				
	17.1	Tests	Conti	nous checks of kno	owledge* points	minmax. 12 – 20
			writte Cover	en tests ring the following a	<b>knowledge (col</b> areas of Pathology :	-
				<b>first colloquium</b> . Pathology of the		
					biliary system and	pancreas.
				. Pathology of the		F
			The	second colloqui		
				thology of breast	_	
			-	thology of the endo	•	
			5. Pat	thology of the cent	ral nervous system	
			Stude	ents can obtain 12-	20 points from on	e colloquium

	Final exam	minmax. Oral
		part* points 13 - 23
		Practical part** points 13-23
		* <b>Oral part (integrative)-</b> 2 questions from pathology of the genital system, skin and locomotory system, as well as integrative knowledge of Pathology 2 important for understanding of the entire subject and medical practice (for grade 10=21-23 points; for 9=19-20 points; for 8=17-18 points; for 7=15-16 points; for 6=13-14 points)
		<b>**Practical part (according to the catalogue of skills):</b> ): microscopic analysis and diagnosis of histopathological slides and autopsy or macroscopic analysis of surgical specimens including theoretical discussion about the topic concerned. (for grade 10=21-23 points; for 9=19-20 points; for 8=17-18 points; for 7=15-16 points; for 6=13-14 points)
		Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be
17.2	Seminar/proje ct (presentation: written and oral)	Thje student must get at least the minimum points for
17.2	ct (presentation: written and oral) Active	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed. Seminar 1 - 2 points Presentation minmax.
-	ct (presentation: written and oral)	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed.         minmax.         Seminar       1 - 2 points         Presentation         minmax.         Theoretical lessons*         points       1 - 2
-	ct (presentation: written and oral) Active	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed. Seminar 1 - 2 points Presentation minmax.
-	ct (presentation: written and oral) Active	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed.         minmax.         Seminar       1 - 2 points         Presentation         minmax.         Theoretical lessons*         points       1 - 2
-	ct (presentation: written and oral) Active	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed.         minmax.         Seminar       1 - 2 points         Presentation         minmax.         Theoretical lessons*         points       1 - 2         Practical lessons**       points         10 - 12
-	ct (presentation: written and oral) Active	Thje student must get at least the minimum points for each part of the exam in order to get the points from the final exam. Otherwise, the exam is considered to be failed.         minmax.         Seminar       1 - 2 points         Presentation       minmax.         Theoretical lessons*       points       1 - 2         Practical lessons**       points       1 - 12         *Attendance at theoretical lessons       10 - 12

		a duration of 4 hours	(24 groups of exercises with ): Attendance: 0.25 points ed exercise 0.25 points
18.	Grading criteria	Up to 59 points	5 (five) F
	(points /grade)	60 to 68 points	6 (six) E
		69 to 76 points	7 (seven) D
		77 to 84 points	8 (eight) C
		85 to 92 points	9 (nine) B
		93 to 100 points	10 (ten) A

19.	Cond	itions f	or	Cond	itional criteria:		
19.		ture an			lition for a signat	1re	
			nal exam		ler to get a signature		o visit the
	laning	guiem	nai exam		etical lessons, practi		
				and h	as to achieve at lea	st a minimum poi	nts $(1+10)$
				points		or a	(1) 10
				-	ition to take the f	inal exam	
				In or	der to take the fina	l exam, the stude	nt has to
				achiev	ve at least a minim	um points for ea	ch of the
					lical evaluations sep		
				get at	least 30% of the tota	l number of points	provided
					ntinous check of kno	wledge (6+6 point	s); during
				the e		student must	
					nation for the fail		
				final e	and afterwards the s	student may proce	eed to the
				mare	zxam.		
				The f	inal grade is forme	d according to th	e grading
					based on the sum o		
					ties, continuous che		
				final e		in anomenge	und the
20.	Teach	ning lar	1911896		donian		
21.		-	monitoring		nt`s anonymous eva	luation of the subi	ect
21.			of lectures		ers and associates in		
	the qu	aunty 0	i lectures	proces		volveu in the educe	litional
22.	Litera	ture		proces			
			latory literat	ure			
		#	Autho		Title	Publisher	Year
		1		- Кумар,		Табернакул	2010
		-	Абул Абас		патологијата	ruoopnunyn	2010
			Нелсон Фа		според Робинс		
			Ричард М		според гооппе		
	22.1	2	Катедра	по	Избрани	Медицински	2010
		-	патологија	-	поглавја од	факултет,	2010
			група авто		Патологија 1	Скопје, УКИМ	
		0	Катедра	-	Практикум за	Медицински	2008
		3	патологија	по	практикум за хистопатолошки	факултет,	2000
			група авто		вежби	Скопје, УКИМ	
		Addi+	tional literati	<b>1</b>	DUMUH	CRUIJE, 5 MINI	
		#	Autho	1	Title	Publisher	Year
						Saunders	
		1	Kumar, Ab		Pathologic Basis of	Saunders	2010
			Fausto, Ast	ler			
					Disease, eight edition		
	22.2	6	Робинс и			Soundorg	0006
	22,2	2			Патолошки	Saunders	2006
			Котран		атлас	Elsevier	2010
						Академски	
					Π	печат	2017
		3	Робинс и К	отран	Патолошка основа	Арс Ламина-	2015
					на болестите - 8	публикации	
					ИЗД.		

		4				
		5				
1.	Subjec	t	·	BASIC NUCLE	CAR MEDICINE	
2.	Code			MED 315		

3.	Study	Program		Ge	neral Medici	ne		
4.	Institu	tion		Ss	Cyril and	Methodi	us Univ	versity, Medical
	(Unit,	Institute, Chair, Dep	artment)		culty, Depar clear Medici		f Patho	physiology and
5.	Degree (first o	e of education r second cycle)		Int	egrated 6-yea	ar study		
6.	Study	year/semester			ird (III) / th(V)	7.Numl credits	per of	1.5
8.	Respo	nsible teacher		Pro	of. Olivija Va	iskova, Pł	nD, MD	l.
9.		ditions		Ob	tained credits			exam of
10.	• To l radi	ching goals: become acquainted v opharmaceuticals. get acquainted with r				_		_
11.	Brief c	content:						
	• Phy • Rac • Prir	etical course: sical bases of radioa liopharmaceuticals p nciples of radiotracer rapy of diseases.	reparation	and applic	ation.	2		c procedures and
	• Rou • The • Pres	cal lessons: attine procedures in de application of radio sentation of the most cedures.	nuclides fo	or In vivo a	and In vitro p	rocedures		diagnostic
12.	Interac	<b>ds of studying:</b> ctive teaching durin oks, visual studying,						study by usin
13.		vailable time:	1		45classes		<u> </u>	
14.	Organi	zation of the course			course, sen	ninars		e, practical
1.7	Г	C ( 1:	1 7 1	TT1 (*	15 classes	- nome in		-
15.	activit	of teaching les	15.1.	Ineoreti	cal course		20 class	ses
			15.2.	Practical Seminar	-		10 class	ses
16.	Other	forms of activities	16.1.	Practice				
			16.2.	Individu	al tasks			
	Matha	d of assessment	16.3.	Individu	al (home) lea	arning	15 class	ses
	17.1	Tests						min mor
	1/.1	1 0818	Contin	ious assess	sment			min – max
					test +oral ex	aminatio	on	
					all unites of t			d practical
					h the except			•
					o nuclear me		the field	
			2.	Oral exam	ination: inte	grative kr	nowledge	;
								ethods in the

oncology field
15-25 points
The grade in the final exam is given according to the grading
table, and on the basis of the sum of points obtained in all of
the activities.

17.2       Seminar paper/project (oral/written presentation)         17.3       Active participation         17.3       Active participation         17.3       Active participation         18.       Grading criteria (points / grade)       Theoretical course (% of presence) • min.30% 1 point 1-5 • 31-70% 2 points • 71-100% 5 points         18.       Grading criteria (points / grade)       up to 59 points from 60 to 68 points from 69 to 76 points from 93 to 100 points         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction 21.       English Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	5 6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
Image: presentation)Image: presentation)17.3Active participationTheoretical course (% of presence) • min.30% 1 point 1-5 • 31-70% 2 points • 71-100% 5 points Practical course18.Grading criteria (points / grade)up to 59 points from 60 to 68 points from 69 to 76 points from 93 to 100 points19.Requirement for signature and taking the final examThe student is required to actively activities.19.Requirement for signature and taking the final examThe student is required to actively activities.20.Language of instruction quality of teaching processEnglish Attendance of students to classes a in theoretical and practical lessons22.TextbooksTextbooks	6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
17.3       Active participation       Theoretical course (% of presence)         • min.30%       1 point       1-5         • 31-70%       2 points         • 71-100%       5 points         Practical course       • 71-100%         18.       Grading criteria (points / grade)       up to 59 points         18.       Grading criteria (points / grade)       up to 59 points         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Require of instruction       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks       Textbooks	6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
participation       Theoretical course (% of presence)         • min.30%       1 point       1-5         • 31-70%       2 points         • 71-100%       5 points         Practical course       • 71-100%         18.       Grading criteria (points / grade)       up to 59 points         from 60 to 68 points       from 69 to 76 points         from 77 to 84 points       from 93 to 100 points         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         Conditional criteria for assessmed In order to get a signature, the stude points in both theoretical and practical points in both theoretical and practical lessons         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
<ul> <li>min.30% 1 point 1-5</li> <li>31-70% 2 points</li> <li>71-100% 5 points</li> <li>Practical course</li> <li>18. Grading criteria (points / grade)</li> <li>18. Grading criteria (points / grade)</li> <li>19. Requirement for signature and taking the final exam</li> <li>10. Language of instruction</li> <li>20. Language of instruction</li> <li>21. Method of monitoring the quality of teaching process</li> <li>22. Textbooks</li> </ul>	5 6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
<ul> <li>31-70% 2 points</li> <li>71-100% 5 points</li> <li>71-100% 5 points</li> <li>Practical course</li> <li>18. Grading criteria (points / grade)</li> <li>18. Grading criteria (points / grade)</li> <li>19. Requirement for signature and taking the final exam</li> <li>19. Requirement for signature and taking the final exam</li> <li>20. Language of instruction</li> <li>20. Language of instruction</li> <li>20. Language of instruction</li> <li>20. Language of instruction</li> <li>21. Method of monitoring the quality of teaching process</li> <li>22. Textbooks</li> </ul>	6 - 10 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
<ul> <li>Formation in the student is required to actively activities.</li> <li>20. Language of instruction</li> <li>21. Method of monitoring the quality of teaching process</li> <li>22. Textbooks</li> </ul>	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
18.       Grading criteria (points / grade)       up to 59 points from 60 to 68 points         18.       Grading criteria (points / grade)       up to 59 points from 60 to 68 points         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
18.       Grading criteria (points / grade)       up to 59 points from 60 to 68 points         18.       Grading criteria (points / grade)       from 60 to 68 points         19.       Requirement for signature and taking the final exam       from 93 to 100 points         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
(points / grade)from 60 to 68 pointsfrom 69 to 76 pointsfrom 77 to 84 pointsfrom 85 to 92 pointsfrom 93 to 100 points19.Requirement for signature and taking the final examThe student is required to actively activities.Conditional criteria for assessme In order to get a signature, the stude points in both theoretical and pract20.Language of instruction21.Method of monitoring the quality of teaching process22.Textbooks	6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
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19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	8 (eight) C 9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	9 (nine) B 10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
19.       Requirement for signature and taking the final exam       The student is required to actively activities.         19.       Requirement for signature and taking the final exam       The student is required to actively activities.         20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	10 (ten) A follow all of the planned ent of knowledge: lent should obtain minimum tical courses
<ul> <li>19. Requirement for signature and taking the final exam</li> <li>20. Language of instruction</li> <li>21. Method of monitoring the quality of teaching process</li> <li>22. Textbooks</li> </ul>	follow all of the planned ent of knowledge: lent should obtain minimum tical courses
and taking the final exam       The student is required to actively activities.         Conditional criteria for assessment in order to get a signature, the stude points in both theoretical and practivities.         20.       Language of instruction         21.       Method of monitoring the quality of teaching process         22.       Textbooks	ent of knowledge: lent should obtain minimum tical courses
20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	ent of knowledge: lent should obtain minimum tical courses
20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	lent should obtain minimum tical courses
20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	lent should obtain minimum tical courses
20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	tical courses
20.       Language of instruction       English         21.       Method of monitoring the quality of teaching process       Attendance of students to classes a in theoretical and practical lessons         22.       Textbooks	
21.Method of monitoring the quality of teaching processAttendance of students to classes a in theoretical and practical lessons22.Textbooks	
21.Method of monitoring the quality of teaching processAttendance of students to classes a in theoretical and practical lessons22.Textbooks	and the survey time of the state
22. Textbooks	nd interactive participation
Mandatory1.Basic nuclear medicine,Vaskova O,	Boro 2008
Miceva Ristevski	
Pop Gjorcheva D	
Miladinova D,	,
22.1. Loparska S,	
Janevik-Ivanovsl	ca E:
Additional	
1.         Essentials of Nuclear Medicine         Mettler F. A., Jr. a	nd Saunders, 2012
22.2. <i>Imaging: Expert Consult</i> Guiberteau M.J :	ISBN:
	1455701041
1.     Subject     BIOCHEMISTRY 1       2.     Columnation     MED 212	
2. Code MED-212	
3. Study Program General Medicine	1
4. <b>Organizing Institution ( Unit, </b> UKIM-Faculty of Med	
<b>Institute, Chair, Department</b> ) Department of Bioche	mistry and Clinical
Biochemistry	-

	Educational degree (first second cycle)	or	Integrated cyc	cle		
5.	Study year /semester		Second year /III	7.	Number of credits	7

8.	Responsible teacher	Prof. Jasna Bogdanska The lectures are given by all members of the							
		Department of Biochemistry and Clinical Chemistry							
9.	Preconditions:	Passed exam in Medical chemistry							
10.	Teaching goals of the study progra students have:	am (competencies): The							
	<ul> <li>To learn and to define the different roles of the three different classes of macromolecules in the human body: proteins, carbohydrates and lipids as well as, the complex compounds build of these macromolecules:</li> <li>To learn the structure and the transport trough the biological membranes;</li> <li>To define the vitamins as the enzyme cofactors and as hormones (vitamin A and D)and antioxidants (vitamin E) and as anti-hemorrhagic compound (vitamin K);</li> <li>To be informed about the 6 classes of the enzymes,</li> <li>To understand the types of enzyme catalysis and the types of the catalyses, enzyme kinetics and inhibition of the enzyme reactions;</li> <li>To understand the biosynthesis of the biological molecules (carbohydrates, proteins and lipids)and the catabolism to the final products; and to understand the regulation of the most important biochemical pathways;</li> <li>To understand the metabolism of haemoglobin;</li> <li>To understand the respiratory chain, oxidative phosphorilation and ATP synthesis.</li> </ul>								
11.	Contents of the study program: + Theoretical course:								
	<ul> <li>Biochemistry of the cell</li> <li>Chemical structure and funct amino-acid derivates</li> </ul>	tion of the proteins , haemoglobin, myoglobin,							
	<ul> <li>Carbohydrates as a compour</li> </ul>	nds of the cell membrane, glycosaminoglycanes he extra cellular matrix), proteoglycanes,							
		s a membrane components, signals, cofactors and							
	antioxidants (vitamin E) and	actors and as hormones (vitamin A and D)and as anti-hemorrhagic compound (vitamin K); , Hill's equation; enzyme inhibition; alosteric and							
		s: glicolisis glukoneogenesis, pentose-phosphate nolisis.							
	<ul> <li>Tricarboxylic acid cycle, oxi</li> <li>Metabolisam of lipids, beta o</li> </ul>	idative decarboxylation of piruvate. oxidation of the fatty acids, metabolism of ketone cholesterol synthesis, phospholipids, glicolipids,							
	<ul> <li>Protein metabolism, the fate chain of the amino acids, syn</li> </ul>	of nitrogen, urea synthesis, the fate of carbon othesis of the non-essential amino acids, amino the metabolic pathways. + Hemoglobin							
		phosphorilation and ATP synthesis.							

	<ul> <li>Practical course:</li> <li> <ul> <li>Plasma proteins separation techniques, lipoprotein separation tecniques (electrophoresis), carbohydrates separation techniques (chromatography).</li> <li>Michaelis-Menten- equation, pH optimum and temperature optimum;</li> <li>Quantification of several biochemical parameters like vitamins, proteins, carbohydrates and lipids in human serum.</li> </ul> </li> </ul>							
12.	Meth	ods of studying: int	teractiv	e lectures	, group work, e	xercises, semi	nar paper.	
13.	Total	no. of hours:			210 hours			
14.	Distri	bution of the avail	able tiı	me		-		
15.		of educational	15.1	Lecture	s-theoretical	45 hours		
	activi	ty		course				
			15.2		ls (laboratory,	48 hours		
				clinical)				
				seminar work	s, team			
16.	Othor	• types of	16.1		assignments	12 hours		
10.	activi		16.2	Individu				
	uctivi		16.3	Home s		105 hours		
17.	Asses points	sment of knowledg		Tionic 5		105 110415		
	17.1	Tests					minmax.	
				2 Contin	nuous tests		total points	
					'est 1		6 -10	
					est 2		6 - 10	
		Final exam			Biochemistry	minmax.		
	17.0		•	Practical exam Oral exam			12 - 20 21 - 35	
	17.2	Seminar work/pro (presentation: wri and oral)	tten	Seminar	works	minmax. 1-3 points		
	17.3	Active participation	on				minmax.	
					ical course		points: 1-5	
10	Know	ledge assessment		Practica			points: 13-17	
18.	criteri			up to 59 60 to 68	*		5  (five)  F	
		ts/grade)		69 to 76	1		6 (six) E 7 (seven) D	
	·1	U ,		77 to 84	1		8 (eight) C	
				85 to 92	-		9 (nine) B	
				$\frac{32}{93}$ to 100	1		$\frac{10 \text{ (ten) } \text{A}}{10 \text{ (ten) } \text{A}}$	
19.	Criter	ia for obtaining a	1		riteria for asso	essment of kn	× /	
		ure and taking the			signature that tl		-	
	final e	exam					sted to actively	
					th theoretical co			
						-	the lectures) and	
			semi	nars (min	imum 1 point).			
20.	Lanor	age of the course	Engl	lish				
20.		od for evaluation of	-		tudent's evaluat	tion of the sub	iect, teachers	
		ality of education		-	ors involved in			

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22.	Litera	ture							
		Mand	atory textbooks						
			Author		Title	Publisher	Year		
		1	Robert K. Merey	На	arper's Illustrated	ISBN-13:	2006		
	22.1		and all.		ochemistry	97800716259			
	22.1				•	13			
		2	David. L. Nelson	Le	chninger	ISBN-13:			
				Pr	inciples of	97814641261			
				Bi	ochemistry	16			
		Addit	ional literature	1					
		Author			Title	Publisher	Year		
	22.2				ark's Basic	Lippicott	2013		
			Lieberman		edical	Williams &			
-	<u> </u>			B1	ochemistry	Wilkins			
1.	Subje	ct			BIOCHEMIST	RY 2			
2.	Code				MED-221				
3.	•	Progr			General medicine				
4.	Organizing Institution (Unit, Institute, Chair, Department)				UKIM-Faculty of		I		
	Instit	ute, Ch	air, Department)		Chemistry	ochemistry and Clinica	L		
5.	Educe	ational	degree (first	0r	Integrated cycle				
5.		d cycle	0	or	Integrated Cycle				
6.			semester		Second/ IV 7.	Number of	6		
0.	Bluuy	ycar /	semester			credits	0		
8.	Respo	nsible	teacher		Prof. Jasna Bogda				
0.	Licspe	1101010			-	given by the professors,			
						Department of Biochem	istry and		
					Clinical Chemistr		•		
9.	Preco	nditio	ns:		Signature from Biochemistry 1				
10.	Teaching goals of the study program (competencies): The student has:								
	Teach	ing go	als of the study pro	ogra	am (competencies)	: The student has:			
		00		C			haaaa of		
		To kr	now to recognize the	bas	sic chemical struct	ures of the nucleic acid	bases, of		
	+	To kr	now to recognize the otides and of nucleo	bas bas	sic chemical structures (both ribo-and d	ures of the nucleic acid eoxyribo-forms);			
	+	To kr nucle To des	now to recognize the otides and of nucleo	bas bas	sic chemical structures (both ribo-and d	ures of the nucleic acid			
	+	To kr nucle To des of RN	now to recognize the otides and of nucleo scribe the flow of gen	bas bide etic	sic chemical structures (both ribo-and d information (DNA–	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th			
	+ + +	To kr nucle To dea of RN To lea To lea	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestion rn about plasma prote	bas baside baside baside	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrie	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th	ree types		
	+ + +	To kr nucle To des of RN To lea eleme	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestior rn about plasma prote nts,	e bas oside etic n and eins,	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins,	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood	ree types		
	+++++++++++++++++++++++++++++++++++++++	To kr nucle To des of RN To lea eleme To lea	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestior rn about plasma prote nts, rn and explain the me	bas baside etic a and etins,	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins,	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood	ree types		
	+++++++++++++++++++++++++++++++++++++++	To kr nucle To des of RN To lea To lea To lea To lea	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestion rn about plasma prote nts, rn and explain the me scribe signal transduc	bas baside etic a and etins, etabo	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins, blism of water and el	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood lectrolytes.	ree types		
	+++++++++++++++++++++++++++++++++++++++	To kr nuclea To dea of RN To lea eleme To lea To lea To dea To dea	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles an about the digestion about plasma prote- nts, arn and explain the me scribe signal transduct fine hormones and ho	e bas oside etic n and etabo tion rmor	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins, blism of water and el ne cascade system; i	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino	count		
	+ + + + + + + +	To kr nucle To des of RN To lea eleme To lea To des To des acidde	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles irn about the digestion irn about plasma prote nts, irn and explain the me scribe signal transduct fine hormones and ho erived hormones and s	e bas oside etic n ance etabo tion rmos	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins , blism of water and el ne cascade system; i id hormones and the	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood lectrolytes.	count ng.		
	+ + + + + + + +	To kr nuclea To dea of RN To lea To lea To lea To lea To dea To dea To dea To dea To dea To dea To dea To dea	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles an about the digestion about plasma prote- nts, an and explain the me scribe signal transduct fine hormones and ho- erived hormones and so informed about the tr ow to describe and ex	e bas oside etic i ance etabo tion rmoo stero ansle plain	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins, blism of water and el ne cascade system; i id hormones and the ocation of proteins in	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino gir role in signal transduci	count ng.		
	+ + + + + + + + + + + + + + + + + + + +	To kr nucle To des of RN To lea eleme To lea To des To des acidde To be To kn bone,	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles in about the digestion in about plasma prote- nts, in and explain the me scribe signal transduct fine hormones and ho erived hormones and s informed about the tr ow to describe and ex blood, nervous system	baside etic and etic etins, etabo tion rmoo stero ansle plain n.	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins, blism of water and el ne cascade system; i id hormones and the ocation of proteins in	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartm	count count ng.		
11.	+ + + + + + + + +	To kr nucle To des of RN To lea To lea To lea To des acidde To des acidde To be To kn bone,	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestion rn about plasma prote nts, rn and explain the me scribe signal transduc fine hormones and ho erived hormones and so informed about the tr ow to describe and ex blood, nervous system the study program	baside etic and etic etins, etabo tion rmoo stero ansle plain n.	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutric immunoglobulins, blism of water and el ne cascade system; i id hormones and the ocation of proteins in	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartm	count count ng.		
11.	+ + + + + + + + Theor	To kr nuclea To dea of RN To lea To lea To lea To lea To dea To dea To dea To dea To dea To dea To dea To dea To dea Contes To kn bone,	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestion rn about plasma prote nts, rn and explain the me scribe signal transduct fine hormones and ho erived hormones and so informed about the tr ow to describe and ex blood, nervous system the study program course::	bas baside etic in and etabo tion rmoo stero ansle plain n.	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrice immunoglobulins, olism of water and el ne cascade system; i id hormones and the ocation of proteins in n the metabolic proc	ures of the nucleic acid eoxyribo-forms); → proteins); naming the the ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartm esses in the: kidney, liver	count count ng. ents , muscle,		
11.	+ + + + + + + + Theor	To kr nuclea To dea of RN To lea To lea To lea To dea To dea To dea To dea To dea To dea To dea To dea To kn bone, <b>ents of</b>	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles arn about the digestion arn about plasma prote nts, arn and explain the me scribe signal transduct fine hormones and ho erived hormones and ho erived hormones and so informed about the tr ow to describe and ex <u>blood, nervous system</u> <b>the study program</b> <b>course::</b> eic acid bases, of nuc	bas baside etic in and etabo tion rmoo stero ansle plain n.	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrice immunoglobulins, olism of water and el ne cascade system; i id hormones and the ocation of proteins in n the metabolic proc	ures of the nucleic acid eoxyribo-forms); → proteins); naming the th ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartm	count count ng. ents , muscle,		
11.	+ + + + + + + + + Theon +	To kr nucle To dea of RN To lea To lea To lea To dea To dea Constante Constante Nucle	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles an about the digestion an about plasma protects in about plasma protects and explain the me scribe signal transduct fine hormones and how erived hormones and how erived hormones and so informed about the tr ow to describe and ex blood, nervous system the study program course:: bic acid bases, of nucles b);	e bas oside etic i ance etabo tion rmo: stero ansle plain n. : cleo	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrice immunoglobulins, olism of water and el ne cascade system; i id hormones and the ocation of proteins in n the metabolic proc	ures of the nucleic acid eoxyribo-forms); → proteins); naming the the ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartmesses in the: kidney, liver osides (both ribo-and de	count count ng. ents , muscle,		
11.	+ + + + + + + + + Theon +	To kr nuclea To dea of RN To lea To lea To lea To lea To lea To dea To dea To dea To dea To dea To dea To dea To dea To dea Enter <b>to solution</b>	how to recognize the otides and of nucleo scribe the flow of gen Aand their roles rn about the digestion rn about plasma prote nts, rn and explain the me scribe signal transduct fine hormones and ho erived hormones and so informed about the tr ow to describe and ex <u>blood, nervous system</u> <b>the study program</b> <b>course::</b> eic acid bases, of nucleo b); ture and function of	bas baside etic in and etabo tion rmoo stero ansla plain n. : cleo the	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrice immunoglobulins, olism of water and el ne cascade system; i id hormones and the ocation of proteins in n the metabolic proc	ures of the nucleic acid eoxyribo-forms); → proteins); naming the the ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartm esses in the: kidney, liver	count count ng. ents , muscle,		
11.	+ + + + + + + + + Theon +	To kr nuclea To dea of RN To lea To lea To lea To lea To dea To dea To dea To dea To dea To kn bone, <b>ents of</b> <b>etical</b> Nuclea forms	now to recognize the otides and of nucleo scribe the flow of gen Aand their roles irn about the digestion irn about plasma prote- nts, irn and explain the me scribe signal transduc- fine hormones and ho erived hormones and so informed about the tr ow to describe and ex <u>blood, nervous system</u> <b>the study program</b> <b>course::</b> eic acid bases, of nuc- so; ture and function of dation, gene express	basiside etic a ance etins, etabo tion rmor stero ansle plain a. : cleo the sion	sic chemical structures (both ribo-and d information (DNA– d absorbtion of nutrice immunoglobulins , blism of water and el ne cascade system; i bid hormones and the ocation of proteins in n the metabolic proc	ures of the nucleic acid eoxyribo-forms); → proteins); naming the the ents; biochemistry of the blood ectrolytes. ntroducingpeptide, amino bir role in signal transduci n different cell compartmesses in the: kidney, liver	count ong. ents , muscle,		

		mechanism of act		emical structure, biosyntl vsiological effects.	hesis, transport, degradation,				
	+		• •1•1-4-	alates and sold has hales					
				olytes and acid-bas balar					
			-	eins, importunes and expe					
	+			globuline(s) and biocher					
			•	thrombocytes, hemostasi					
	<b>•</b>			tissues: Liver, Kidneys,	•				
				-	ne, cartilage; Biochemistry				
		of the muscle tiss		•					
	<b>•</b>	Free radicals and	metado	lism of xenobiotics.					
	<ul> <li>Practical course:</li> <li>Qualitative determination of DNA in the tissue sample of the experimental animal(s);</li> </ul>								
	+		the ure	a. acidum uricum, creatin	ine in human plasma and				
		urine samples;		.,,					
	+	Quantification of	bilirubi	n in human serum:					
				ytes in human serum;					
		-		ve analyzes of urine sam	ples;				
	+			a technique of the separat	<b>1</b>				
				1	I				
				•					
12.	Methods of studying: : class room oriented lectures, interactive lectures, group								
	work,	practical training, s	seminar	paper.					
13.		no. of hours:		180 hours					
14.		ibution of the avai							
15.		of educational	15.1	Lectures-theoretical	35 hours				
	activi			course					
			15.2	Practicals (laboratory,	39  hours + 6  hours of				
				clinical),	Seminars				
				seminars, team					
				work					
16.		r types of	16.1	Project assignments					
	activi	ties	16.2	Individual tasks					
			16.3	Home studying	75 hours				
17.	Asses	sment of knowleds	ge:						
	points		<u>ر</u>						
	17.1	Tests			minmax.				
				2 Continuous tests	points				
				• Test 1:	9-15				
				• Test 2	9-15				
					-				
		Final exam		Subject: Biochemistry	2				
					- minmax.				
				Practical exam (Test)	9-15points				
				Oral exam	21-35 points				
	17.2	Seminar work/pro	oject		minmax.				
		(presentation: wr	•	Seminar works	1-3 points				
		and oral)			r e points				
		und orally							

	17.3	Active participation		minmax.
			Theoretical course	points 1-5
			Practical course	points 10-12
18.	Know	ledge assessment	up to 59 points	5 (five) F

	criteri	a:		6	50 to 6	8 points			6	(six) E
		ts/grade	e)			6 points				even) D
	, T	U				4 points				eight) C
						2 points				nine) B
						0 points				(ten) A
19.	Criter	ia for ol	btaining a	Conditional criteria for assessment of knowledge: : I			e: : I			
			taking the	n order to get a signature that the course has been						
	final e		C					dents are request		actively
				participate in the theoretical course (min 1 point) practical						
								ve 100% presen	ce) and	t
						ninimum 1 poi			-	
								m the student ha		
						-	wel	ll as to pas the w	ritten	exams
				with 6			<b>.</b>	mination is inde	nondo	nt and ia
						-		mination is inde ned 60% of the t	-	
				of the		•	gall		otai IIl	111001
					-		acc	cording to the tal	ble fro	m the
								es taken into acc		
						1				
20.	Langu	age of	the course	Englis	sh					
21.	Metho	ethod for evaluation of A			ymous	s student's eva	alua	ation of the subje	ect, tea	chers
	the qu	he quality of education and co			ollabo	rators involve	d ir	n the educational	l activi	ities
2.	Litera	ture								
		Mandatory textbooks								
		Mand	atory textboo	oks						
		Mand	atory textboo Autho			Title		Publisher		Year
		Mand 1	· · ·	r	Harp	Title per's Illustrate	ed [	Publisher ISBN-13:		Year 2006
	22.1		Autho	r	-			ISBN-13: 9780071	625	
	22.1	1	Autho Robert K. M and all.	r Merey	Bioc	ber's Illustrate hemistry		ISBN-13: 9780071 913	625	
	22.1		Autho Robert K. N	r Merey	Bioc	ber's Illustrate hemistry ninger		ISBN-13: 9780071 913 ISBN-13:		
	22.1	1	Autho Robert K. M and all.	r Merey	Bioc Lehr Prine	ber's Illustrate hemistry hinger ciples of	of	ISBN-13: 9780071 913 ISBN-13: 9781464		
	22.1	1	Autho Robert K. M and all. David. L. M	r Merey Nelson	Bioc Lehr Prine	ber's Illustrate hemistry ninger	of	ISBN-13: 9780071 913 ISBN-13:		
	22.1	1	Autho Robert K. M and all. David. L. M	r Merey Nelson re	Bioc Lehr Prine	ber's Illustrate hemistry ninger ciples o hemistry	of	ISBN-13: 9780071 913 ISBN-13: 9781464 116		2006
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2. 3. 4.	22.2 Subjec Code Study Institut (Unit, Degree (first o	1       2       Addit       1       1       et       Program       Institute       e       of	Autho Robert K. M and all. David. L. M ional literatur Autho Michael Lieberman dichael Lieberman	r Merey Jelson re r	Bioc Lehn Prind Bioc Marl Med	ber's Illustrate hemistry ninger ciples of hemistry Title k's Basic ical hemistry <b>PHYSIOLO</b> MED 213 General Medi Ss Cyril an Faculty, Depa Integrated 6-y First (I) /	GY icine nd artm year	ISBN-13: 9780071 913 ISBN-13: 9781464 116 Publisher Lippicott Williams & Wilkins 1 e Methodius Univ nent of Anatomy study	.126	2006 Year 2013
2. 3. 4. 5. 6.	22.2 Subject Code Study Institut (Unit, Degree (first of Study	1       2       Addit:       1       1       1       e       of       or second       year/sen	Autho Robert K. M and all. David. L. M ional literatur Autho Michael Lieberman , Chair, Depar education d cycle) mester	r Merey Jelson re r	Bioc Lehn Prind Bioc Marl Med	ber's Illustrate hemistry ninger ciples of hemistry Title k's Basic ical hemistry <b>PHYSIOLOO</b> MED 213 General Medi Ss Cyril an Faculty, Depa Integrated 6-y First (I) / First (I)	GY icine artm year 7 c	ISBN-13: 9780071 913 ISBN-13: 9781464 116 Publisher Lippicott Williams & Wilkins 1 e Methodius Univ nent of Anatomy study 7.Number of credits	-126 versity,	2006 Year 2013
2. 3. 4. 5. 6. 8.	22.2 Subjec Code Study Institut (Unit, Degree (first o Study <b>Respo</b>	1         2         Addit:         1	Autho Robert K. M and all. David. L. M ional literatur Autho Michael Lieberman , Chair, Depar education d cycle) mester	r Merey Jelson re r	Bioc Lehn Prind Bioc Marl Med	ber's Illustrate hemistry ninger ciples of hemistry Title k's Basic ical hemistry <b>PHYSIOLOO</b> MED 213 General Medi Ss Cyril an Faculty, Depa Integrated 6-y First (I) / First (I) Prof. Sanja M	of GY icine artm year 7 c Ianc	ISBN-13: 9780071 913 ISBN-13: 9781464 116 Publisher Lippicott Williams & Wilkins 1 e Methodius University study 7.Number of credits cevska, PhD, MD	-126 versity,	2006 Year 2013 Medical
2. 3. 4. 5. 6.	22.2 Subjec Code Study Institut (Unit, Degree (first o Study <b>Respo</b>	1       2       Addit:       1       1       1       e       of       or second       year/sen	Autho Robert K. M and all. David. L. M ional literatur Autho Michael Lieberman , Chair, Depar education d cycle) mester	r Merey Jelson re r	Bioc Lehn Prind Bioc Marl Med	ber's Illustrate hemistry ninger ciples of hemistry Title k's Basic ical hemistry <b>PHYSIOLOO</b> MED 213 General Medi Ss Cyril an Faculty, Depa Integrated 6-y First (I) / First (I) Prof. Sanja M Gained credits	of GY GY icine artm year 7 c Ianc s (pa	ISBN-13: 9780071 913 ISBN-13: 9781464 116 Publisher Lippicott Williams & Wilkins 1 e Methodius Univ ent of Anatomy study 7.Number of credits cevska, PhD, MD passed exam) from	·126	2006 Year 2013 Medical
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10.	Teaching goals:								
	• To gain insight in fun	ctional org	ganization	of the human body a	and to be able to:				
	<ul> <li>the internal enviror</li> <li>Define the function which they are achieved.</li> <li>Understand and int</li> </ul>	nment. as of every ieved and erpret the	system in to connect relations b	the body, to explain them with morpholo etween different boo	dy systems				
	<ul> <li>Predict and explain integrated responses of the systems during physiological effort</li> <li>Perform certain practical procedures</li> </ul>								
11.	Brief content:								
	<ul> <li>physiological regulation of</li> <li>Physiological functions of</li> <li>Skin physiology, thermore</li> <li>Activity of the organism bodies and systems, functi altitude and great depths.</li> </ul> <b>Practical lessons:</b> <ul> <li>Examination of the active</li> <li>experimental animals and to in humans and electrocardie</li> <li>Examination of blood and determination of respiratory</li> </ul>	the interna- ne body. smooth m ac cycle, h microcirc gulation o and their n system d elements espiratory gastrointes bolism, m energy ba the liver. gulation, h under sp oning of the the influer ography. d blood o ups and tea function	al environm nuscles eart tones, ulation and f blood pre- regulation. a, blood her system tinal system tinal system tetabolic pr lance, basa body tempe becific con the organis e muscles, nee of vari- component st methods (functional	heart rate; physiolog l lymphatic system, ssure. nostasis and coagulan occesses of carbohyc l metabolism, diet. erature. ditions, sports phy m in extreme envir testing the activit bus factors on the h s (red blood cells, for hemostasis. testing).	control mechanisms of ation. drates, fats and proteins, esiology, sports impact on ronmental conditions: high ty of the heart muscle in neart; bioelectrical currents white cells and platelets),				
	•Examination of the function of the gastrointestinal system (determination of acidity of gastric juice and the action of digestive enzymes).								
12.	Methods of studying: Interactive teaching during using textbooks, practical e with computer-assisted lea	exercises of	·						
13.	Total available time:			330 classes					
14.	Organization of the course			150 classes - the course, seminars 180 classes - hom	eoretical course, practical e individual learning				
15.	Forms of teaching activities	15.1.	Theoreti	cal course	75 classes				
		15.2.	Practical Seminar		75 classes				
16.	Other forms of activities	16.1.	Practice						
		16.2.	Individu	al tasks					
		16.3.	Individu	al (home) learning	180 classes				
17.	Method of assessment		· ·						

	17.1	Tests			- max
			Continual assessment - 3 (v	vritten)	
			Physiology of blood	and 9-15 p	oints
			<ul> <li>respiratory system</li> <li>Physiology of muscl circulatory system</li> </ul>	e, heart 9-15	and
			<ul> <li>Physiology of the ur system, body fluids gastrointestinal syste</li> </ul>	and	
				): liver metabolism,	nation +oral
			thermoregulation, phys physiology in special conditi 15 points	iology of sport and ions 9-	
			2. Practical and oral practical procedures and integrative knowledge of the learnt in Physiology 1.	e whole material	23 points
			The grade in the fina grading table, and on the b all of the activities.	l exam is given accordin basis of the sum of point	
	17.2	Seminar paper/project (oral/written presentation)	1 - 3		min – max
	17.3	Active participation	Theoretical course Practical course Completed textbook		min – max 1-3 8 - 11 mandatory
18.	Gradin	ng criteria	up to 59 points		5 (five) F
		s / grade)	from 60 to 68 points		6 (six) E
	-	-	from 69 to 76 points		7 (seven) D
			from 77 to 84 points		8 (eight) C
			from 85 to 92 points		9 (nine) B
			from 93 to 100 points		10 (ten) A
19.		rement for signature king the final exam	The student is required to activities.	·	e planned
			Conditional criteria for In order to get a signature points in both theoretical a seminar paper; In order to take the final of minimum points in the th student has not obtained to assessments, he/she will b	e, the student should obta and practical courses, an exam, the student should ree continual assessmen the minimum points in th	ain minimum nd to present l obtain the ts; If the ne continual
<b>2</b> 0	T	<u>.</u>	final exam.		
20.	_	age of instruction	Macedonian	alagaag and internet	nontinin-di-
21.		d of monitoring the y of teaching process	Attendance of students to in theoretical and practica evaluation of the subject, in the educational activiti	al lessons and anonymou teachers and collaborate	is student's
22.	Textbo	ooks			
	22.	1. Mandatory			

	1.	Guyton AC, Hall JE.	Textbook of Medical	Elsevier,	2011
			Physiology 12 th	London,	
			edition.		
	2.	Dejanova B, Petrovska S,	Physiology of certain	Medical	2012
		Todorovska L.	organ systems.	Faculty,	
				Skopje	
	3.	Costanzo LS.	Physiology	Elsevier,	2006
				London,	

		4. Efremovska Lj and a		ticum iology 1.		Medica Faculty Skopje	/,	2012		
		Additional	I		i					
	22.2.	1 Widmaier E, Raff H, K.	P M	rang Vander's Human Physiology: The Mechanisms o Body Function.				2013		
1.	Subject			IOLOGY 2						
2.	Code	MED								
3.	Study Prog	ram		General Medicine						
4.	Institution (Unit, Instit	ute, Chair, Department)	-	Ss Cyril and Methodius University, Medical Faculty, Department of Anatomy						
5.	Degree of e or second c	education (first ycle)	Integra	Integrated 6-year study						
6.	Study year/	semester	First (I (I)	First (I) / First 7.Number (I) credits		of	6			
8.	Responsibl	e teacher	.,	anja Mance	vska, Phl	D, MD				
9.	Preconditio	ns	Signat							
10.	Preconditions       Signature from Physiology 1         Teaching goals:       • To gain insight in the regulatory systems of the human body and to be able to:         • Define the functions of the nerve system, sensory senses and endocrine system, to explain the mechanisms through which they are achieved and to connect them with morphological structure.         • Understand and interpret the interrelations between the nerve and endocrine system and their relations with other organ systems.         • To explain integrated responses of the regulatory systems during the maintenance of the normal function of the human body									

11.	Brief content:
	<ul> <li>Theoretical course:</li> <li>Physiology of the nervous system, neuron, nerve impulse, synapses, neurotransmitters and nevromodulatori.</li> <li>Physiology of sensory system, receptors, neural pathways, sensory cortex, somatic sensations, sense of touch and position; sense of vision; sense of hearing; sense of balance; sense of taste; sense of smell; sense of pain.</li> <li>Physiology of the motor cortex, basal ganglia, cerebellum, brainstem, spinal cord, vegetative spinal reflexes, physiological functions of the autonomic nervous system.</li> <li>Physiology of the reticular formation and physiology of the limbic system and hypothalamus.</li> <li>Endocrine physiology and physiological mechanisms of action of hormones of the endocrine glands: pituitary, tireoidea, parathyroid glands, endocrine pancreas, adrenal glands.</li> </ul>
	<ul> <li>Practical lessons:</li> <li>Measurement of body temperature and basal metabolism.</li> <li>Examination of the peripheral nervous system in experimental animals, its excitability and conduction; examination of clinically important human reflexes; examination of the sense of vision, sense of sound and balance, sense of taste and smell; methods of brain activity.</li> <li>Examination of the autonomic nervous system.</li> </ul>

	• Examination of the functions of the endocrine glands in experimental animals.							
12.	Methods of studying: Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises on experimetal animal models and virtual models with computer-assisted learning.							
13.	Total available time: 180 classes							
14.	Organization of the course			<ul><li>90 classes - theoretical course, practical course, seminars</li><li>90 classes - home individual learning</li></ul>				
15.	Forms of teaching activities	15.1.	Theoretic	cal course	45 classes			
		15.2.	Practical Seminars	,	45 classes			
16.	Other forms of activities	16.1.	Practice					
		16.2.	Individua	al tasks				
		16.3.	Individua	al (home) learning	90 classes			
17.	Method of assessment							

	17.1	Tests	Continual assessment - 2 (wr	min – max itten)
			<ul> <li>Physiology of periph and central nervous s</li> <li>Physiology of senses neuronal control of m awareness; and intell</li> </ul>	system. 12-20 points nood, emotion and state of
			<ul> <li>Final exam: final test (writter examination</li> <li>1. Final test (written): physiology of endocrine</li> </ul>	en) + practical examination +oral 12 - 20 points
			<ul> <li>Practical and oral example of the value</li> <li>Practical procedures and integrative knowledge of the value</li> </ul>	nination: certain
			learnt in Physiology 2.	14-23 points exam is given according to the
				sis of the sum of points obtained in
	17.2	Seminar paper/project (oral/written presentation)	1 - 3	min – ma
	17.3	Active		min – max
		participation	Theoretical course	1-3
			Practical course	8 - 11
			Completed textbook	mandatory
18.		ng criteria	up to 59 points	5 (five) F
	(point	s / grade)	from 60 to 68 points	6 (six) E
			from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C
			from 85 to 92 points	9 (nine) E
			from 93 to 100 points	10 (ten) A
19.		rement for signature	The student is required to a activities.	ctively follow all of the planned
	and ta	king the final exam	Conditional criteria for as	
			I I ANAITIANAI CRITARIA TAR AG	

			<ul><li>points in both theoretical and practical courses, and to present a seminar paper;</li><li>In order to take the final exam, the student should obtain the minimum points in the three continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.</li></ul>
20.	Language o	f instruction	Macedonian
21.		monitoring the eaching process	Attendance of students to classes and interactive participation in theoretical and practical lessons and anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities
22.	Textbooks		
	22.1.	Mandatory	

		1.	Guyton AC, Hall JE.		Pł	extbook o nysiology lition.		cal	Elsevier, London,	201	1
		2.	Maleska V, and all.		Practicum in Physiology 2.			in	Medical 2012 Faculty, Skopje		12
		3.	Costanzo LS.		Pł	nysiology	7		Elsevier, London,	200	)6
		4.	Despopoulos A, Silbernagl S.			olor hysiolog	atlas y.	of	New York	200	)3
		Ado	tional								
	22.2.	1	Widmaier E, Raff H, St K.	trang		Vander' Physiol Mechar Functio	ogy: iisms o	The	McGraw Hill Educatior		2013
1.	Subject						HUMA	N GE	NETICS		
2.	Code			MED 124							
3.	Study Pro	0		General medicine							
4.	-	-	stitution (Unit,	UKIM-Faculty of Medicine Cathedra							
	,		r, Department)	of himan genetics							
5.	Education second cyc		degree (first or	Integrated cycle							
6.	Study year	r /sei	nester	first/second 7. Numbe credits					5		
8.	Responsib	le te	acher	Chief of the cathedrae - Prof d-r Elena							
				Shukarova-Angelovska							
									y all memb	pers (	of
0	D					athedra (				1	I
9.	Preconditi	ons:		Obtained the signature of the morphology and physiology of the cell							
10.	<ul> <li>Teaching goals of the study program (competencies):</li> <li>Training the students about the basic genetic principles that influence medical practice</li> <li>Training the students regarding basic principles of cytogenetics, molecular genetics, biochemical genetics, population genetics, reproductive genetics and genetics in forensic medicine</li> <li>Educating the students on basic principles in communication with families with genetic</li> </ul>						nsic				
	disorde	rs and	a malformations students about basic ethi	-					with	50110	

11.		ents of the study pr	rogram	:							
	Theorem	retical course:									
	• Bas	sics of human genetic	cs - orga	nization of prokaryotic and	d eukar	yotic DN	A, nuclear	r and			
	nor	n-nuclear DNA, basi	c proces	ses of replication, transcrip	ption ar	nd transla	tion, regul	lation			
	of	gene expression and s	signaling	g, gene mapping in prokary	votes ar	nd eukary	otes,				
	-	-		cs of cytogenetics, chromo		-		ent			
			U U	ycle and mitotic and meiot		•	-				
				basis of heredity, Mendel							
				•	•						
		inheritance - complex and multifactorial inheritance genetic factors in common diseases. Mapping and identification of genes for monogenetic diseases. Developmental genetics									
			-	-		-	-				
		-	- •	onic development. Mutati	-						
		• •		A. Molecular and biocher		-					
		-		unogenetics. New technol	-		-				
	-		-	atal genetic testing of inhe		nd geneti	c conditio	ns,			
	eth	ical aspects of geneti	c exami	nations. Practical course	:						
	• Me	thods of genetic anal	ysis - D	NA extraction, methodts for	or detec	ting of k	known and	1			
	unl	known mutations and	polymo	rphisms. Methods of writi	ng and	interpreta	ation of th	e			
				performing karyotype, sta				ction			
				erpretation of the mendelia							
		-		types of the mutations, or	cogene	e changes	. Screenin	g			
				ods and organisation.							
			•	inical recognition of the sy							
		itimations, me ietic counseling.	thoas to	r prenatal and postnatal de	tection	of mailo	rmations,				
	gei	iene counsening.									
12.			tegrated	d lecturers, practical tuto							
13.	Total	no. of hours:		150 hours:							
				practical tuto		90 hours	home lea	arning			
				and seminar	work						
14.	Distri	bution of the avail	lable tir	ne							
15.	Туре	of educational	15.1	Lectures-theoretical	30 1	nours					
	activi	ty		course							
		•	15.2	Practicals (laboratory,	30ho	30hours					
				clinical),		50110415					
				seminars, team							
				work							
16.	Other	types of	16.1	Project assignments	dene	ending of	on the ir	nterest			
10.	activi	V L	10.1	i roject assignments	-	udent /h		nerest			
	activi	1105	16.2	Individual tasks			on the ir	torest			
			10.2	mutviuuai tasks	-	udent /h		nerest			
			160	TT . 1 *			ours				
			16.3	Home studying	90 1	nours					
17.		sment of knowledg	ge:								
	points			Τ							
	17.1	Tests		3 Continuous tests		t	otal poi	ints			
						min	max				
				Colloquium 1		5	15				
				Colloquium 2				_			
				Colloquium 3		5	15	_			
						7	20				
		The st				•	1				
		Final exam				min	maks	_			
				Theoretical test		30	50				

				Oral exam	21	36
				-	ses all 3 continuous	
				· ·	nin 60% of the sum	
				tests), he can pass	directly on the ora	
	17.2 \$	1	r work/project			minmax.
		(prese oral)	entation: written Ser	ninar works		points and
	17.3	Activ	e participation			minmax.
				Theoretical course	9	points 1-3
				Practical course		points 4-7
18.	Know	ledge a	ussessment up to 5	9 points 5 (fi	ive) F criteria:	60 to 68 point
	6 (	six) E	(points/grade)	69 to 76 points	7 (seven) D	
				77 to 84 points		8 (eight) C
				85 to 92 points		9 (nine) B
				93 to 100 points		10 (ten) A
19.	Criter	ia for o		ional criteria for a	ssessment of kno	
	1		l taking the For gai			U
	exam		actical teaching with		student s are oblie	iged to attend in
		$\mathbf{h}_{\mathbf{h}}$	-	ccess to the oral exa	am the student show	uld nass
				icted continuous cho		-
			-			minum 00% 01
			-	ts from the written		andina ta 11-
				evaluation of the su	-	-
				e mentioned scoring	g, based on the sur	n or the points
20	Langu					
20	-	-	the course Macedo	man, English		
') I	Mathe		1		1 6 .1	
21.			valuation of Anony			
	qualit	y of edu	evaluation of Anonymucation and col			
21. 22.		y of edu				
	qualit	y of edu ture				
	qualit	y of edu ture	ucation and col			activities
	qualit	y of edu ture	and col latory textbooks Author	laborators involved	in the educational Publishe	er Year
	qualit	y of edu ture Mand	and col latory textbooks Author	laborators involved	Hin the educational Publishe University 'Cu	er Year
	qualit	y of edu ture Mand	latory textbooks Author Prof d-r M.	Iaborators involved         Title         Medical genetics	Hin the educational Publishe University 'Cu	er Year
	qualit	y of edu ture Mand	latory textbooks Author Prof d-r M. Kocova and Doz d-r A.	Title Medical genetics and Methodius' ass Authorized	Hin the educational Publishe University 'Cu sociates	er Year
	qualit	y of edu ture Mand 1 2	and col atory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski	Title Medical genetics and Methodius' ass Authorized lecturers	Publishe University 'Cu sociates 2014	er Year ril 2013
	qualit	y of edu ture Mand	and col atory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M.	Title         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univ	Publishe University 'Cu sociates 2014 versity 'Curil 2009	er Year ril 2013
	qualit	y of edu ture Mand 1 2	and col atory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski	Title         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univ	Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius'	er Year ril 2013
	qualit	y of edu ture Mand 1 2	and col atory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M.	Title         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univ	Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa	er Year ril 2013
	qualit	y of edu ture Mand 1 2 3	and col atory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univis         s       1         and Methodius	hin the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje	er Year ril 2013 222.1 Spiroski aculty,
	qualit	y of edu ture Mand 1 2	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         s       1         and       Methodius	In the educational         Publishe         University 'Custor         sociates         2014         versity 'Curil 2009         hodius'         Madical fa         Skopje         rsity 'Curil 2009	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma
	qualit	y of edu ture Mand 1 2 3	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univis         s       1         and Methodius	hin the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma
	qualit	y of edu ture Mand 1 2 3	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         s       1         and       Methodius	In the educational         Publishe         University 'Custor         sociates         2014         versity 'Curil 2009         hodius'         Madical fa         Skopje         rsity 'Curil 2009	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma
	qualit	y of edu ture Mand 1 2 3 4 4	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         s       1         and       Methodius	hin the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma
	qualit	y of edu ture Mand 1 2 3 4 4	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         s       1         and       Methodius	hin the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma
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	qualit	y of edu ture Mand 1 2 3 4 4	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         s 1       and Methodius'         racticum of University         lethodius' copaбorr	In the educational         Publishe         University 'Curil sociates         2014         versity 'Curil 2009         hodius'         Madical fa         Skopje         rsity 'Curil 2009         ници Madical facu         Skopje	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma lty,
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	qualit	y of edu ture Mand 1 2 3 4 4 5 Addit	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M cional literature Author	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         racticum of University         rethodius' copaform         Title         Emery's Elemen	l in the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu Skopje	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma lty,
	qualit	y of edu ture Mand 1 2 3 4 4 5 Addit	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M ional literature Author	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         Title         Title         Emery's Elemen         of Medical	l in the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu Skopje Publishe	er Year ril 2013 22.1 Spiroski aculty, Кочова и huma lty, er Year
	- qualit	y of edu ture Mand 1 2 3 4 4 5 Addit	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M cional literature Author Mueller, R.F. and Young, I.D.	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of Univer         racticum of Univer         tethodius' copaform         Emery's Element         of Medical         Genetics. 10 <sup>th</sup> ed	l in the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu Skopje Publishe ts Elsiever	er Year 2013 222.1 Spiroski nculty, Кочова и huma lty, er Year 1998
	qualit	y of edu ture Mand 1 2 3 4 4 5 Addit	ucation and col latory textbooks Author Prof d-r M. Kocova and Doz d-r A. Petlickovski Prof d-r M. human genetic Проф Др М. Pr genetics 2 and M cional literature Author Mueller, R.F. and Young, I.D.	Iaborators involved         Title         Medical genetics         and Methodius' ass         Authorized         lecturers         Practicum of University         Title         Title         Emery's Elemen         of Medical	l in the educational Publishe University 'Cu sociates 2014 versity 'Curil 2009 hodius' Madical fa Skopje rsity 'Curil 2009 ници Madical facu Skopje Publishe ts Elsiever	er Year 2013 222.1 Spiroski nculty, Кочова и huma lty, er Year 1998

Genetics 4

A Gardner RM, Chromosome abnormalities and  $2^{nd}$  ed 3 GR

Oxford University 1996 Sutherland Press genetic counseling,

		4	Nussbaum, McInnes, Willard Peter Russel	n me	omson&Thom Genetics edicine Genetics 3rd ed.	in	Elsiever Benjamin	2007 2011	
							Cummings		
1.	Subje	ct			BIOPHYSIC	CS		L	
2.	Code				MED-116				
3.	Study Program				General Medi	icine			
4.	Organizing Institution (Unit,					Medicine Chair			
	Institute, Chair, Department)				in Medical Ph	•	8		
5.	Educational degree (first or second cycle)			ond	Integrated cycle				
6.	Study	year /s	semester		First/First	7.	Number of credits	2	
8.	Respo	onsible	teacher		Assistant Professor Dr Tomislav Stankovski				
9.	Preco	ndition	s:		/				
10.									

11.	Contents of the study program:
	Biophysics basics and system theory
	Biomechanics
	Biophysics of fluids
	Bioacoustics
	Optics
	X-ray and nuclear radiation
	Thermodynamics
	Electrical forces
	• Electromagnetism
	Theoretical course:
	• Biophysics basics. Divisions in Biophysics. System theory. System control. Important theories.
	• Basics of biomechanics. Levers of the locomotor system. Work and power of the man. Mechanical work of the heart. Elasticity. Bone fractures.
	• Fluids and their characteristics. Liquid viscosity. Hydrodynamics. Physical model of the blood vessels. Surface tension of liquids. Atmospheric pressure. Mechanics of breathing.
	• Bioacoustics. Oscillations and waves. Sounds waves. Ultrasound. Application of sound in Medicine.
	• Basic geometric laws in optics. Optical instruments. Eye as an optical instrument. Infrared light. NIRS method. Thermography. Ultraviolet light. Quantum optics. Lasers.

	<ul> <li>X-ray radiation. X-ray spectra. Application of X-ray in Medicine. Computer Tomography. Nuclear physics and nuclear reactions. Nuclear Medicine basics. SPECT and PET methods. Hybrid SPECT-CT methods.</li> <li>Thermodynamic processes. Biological open systems. Physiological effect of heat on human body.</li> <li>Electrical forces. Electrostimulation. Heart Bypass. Biopotentials and electrophysiology.</li> <li>Basics of electromagnetism. Electromagnetic induction. Magnetic resonance.</li> </ul>							
	Practical course:							
	<ul> <li>Basics of measuring</li> <li>Electrical forces a</li> </ul>							
	<ul> <li>Electrical forces a</li> <li>Concentration me.</li> </ul>							
	Concentration me							
					8			
12.	Methods of studying: Th	neoretic	al lectures	s and lab experi	ments			
13.	Total no. of hours			60 hours				
14.	Distribution of the avail	able tir	ne					
15.	Type of educational	15.1	Lectures	s-theoretical	21 hours			
	activity		course					
		15.2		ls (laboratory,	9 hours			
			clinical)	·				
			seminar work	s, team				
16.	Other types of	16.1		assignments	/ hours			
10.	activities	16.2	Individu		/ hours			
		16.3	Home st		30 hours			
17.	Assessment of knowledg							
	points	,						

1	17.1	Tests			minmax. 2			
	1/.1	10303		Continuous tests	36 - 60			
		Final exam			minmax.			
				Oral (written) exam	18 - 30			
	17.2	Seminar work/pro	ject		minmax.			
		(presentation: wri and oral)	tten	Seminar works	/			
	17.3	Active participation	on		minmax.			
				Theoretical course	0 - 1			
				Practical course	6 - 9			
18.	Knowledge assessment criteria:			up to 59 points	5 (five) F			
				60 to 68 points	6 (six) E			
	(poin	ts/grade)		69 to 76 points	7 (seven) D			
				77 to 84 points	8 (eight) C			
				85 to 92 points	9 (nine) B			
				93 to 100 points	10 (ten) A			
19.	Criter	ia for obtaining a	Con	Conditional criteria for assessment of knowledge:				
		ure and taking the	Only	Only one absence is permitted for obtaining a signature.				
	final e	exam	The two continuous tests are taken only during the					
			lectures, after that one needs to go to the full exam. The					
			written and the oral test are taken either during the					
				lectures or on the full final exam. In either case, to pass				
				the subject one needs to get at least the minimum				
			-	ired points.				
				ed on the acquired points, t	-			
			acco	rding to the table of grades	s (given above).			

20.	Langu	lage (	of the course	English					
21.	Metho	od foi					by the students		
	the qu	ality		the subject, teachers and collaborators involved in the educational activities					
22.	Litera	ture							
		Ma	ndatory textbooks	8					
			Author		Title		Publisher		Year
	22.1	1	T. Stankovski	Biophy: materia	sics – internal ls		Faculty Medicine	of	2015
		2	N. Andonovska	Biophy	sics		UKIM		2005
		3	D. Gersanovski	Biophy materia		nternal	Institute Physics	of	2006
		Ade	ditional literature						
			Author	Title			Publisher		Year
	22.2	1	W. Bialek	Biophysics: Searching for Principles			Princeton 2 University Press		012
		2	T. Stankovski	Tackling the inverse problem for nonautonomous systems: Application to life sciences			Springer	2	013
1.	Subject				CELL PHYSIOLOO	MOI	RPHOLOGY		AND
2.	Code				MED 112				

3.	Study Program	General Medicine					
4.	Institution (Unit, Institute, Chair, Department)	Ss Cyril and Meth Department of An	nodius University, atomy	Medical Faculty,			
5.	Degree of education (first or second cycle)	Integrated 6-year study					
6.	Study year/semester	First (I) /7.Number of5First (I)credits5					
8.	Responsible teacher	Prof. Sanja Mance	evska, PhD, MD				
9.	Preconditions	None					
10.	<ul> <li>Teaching goals:</li> <li>Gaining knowledge on the bus structure and function interconn</li> <li>Gaining knowledge on evident of mitosis, meiosis and cell apop</li> <li>To recognize the cell as a funct structures and systems, as well a</li> <li>To learn about the cellular pro control mechanisms that enable</li> </ul>	ection morphological char otosis. ional unit, to study as the interaction of duction processes,	nges manifested du the functions of in the cell with the en cellular information	uring the process ndividual cellular nvironment.			
11.	<ul> <li>Brief content:</li> <li>Theoretical course: <ul> <li>Basic structure and function of prol</li> <li>Eukaryotic cells:</li> <li>Morphological characteristics of the</li> <li>Morpholocical specificities of diffe</li> </ul> </li> </ul>	e cell in mitosis, n	neiosis and apopt	osis.			

	<ul> <li>Function of the cell, the cell's environment and its behavior (motility and communication with the environment and with other cells).</li> <li>Function of cellular physiological systems.</li> <li>Functions of the nucleus and cell organelles.</li> <li>Cell information processes and their regulation.</li> <li>Cell replication and development.</li> <li>Specialized cell systems.</li> </ul> <b>Practical lessons:</b> <ul> <li>Basic structure and function of prokaryotic cells</li> <li>Eukaryotic cells: Plasmaleme, glycocalix, organellae and nucleus morphology;</li> <li>Morphological characteristics of the cell in mitosis, meiosis and apoptosis.</li> <li>Morpholocical specificities of different cell types</li> <li>Transport through cell membrane</li> <li>Functions of the nucleus and cell organelles.</li> <li>Intercellular communication</li> <li>Specialized tissues (muscle and nerve cell)</li> </ul>
12.	Methods of studying: Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises on experimetal animal models and virtual models with computer-assisted learning.
13.	Total available time:150 classes

14.	Organi	zation of the course		course, seminars	tical course, practical individual learning		
15.	Forms of teaching activities		15.1.	Theoretical course	34 classes		
			15.2.	Practical course, Seminars	26 classes		
16.	6. Other forms of activities		16.1.	Practice			
			16.2.	Individual tasks			
			16.3.	Individual (home) learning	90 classes		
17.							
	17.1	17.1 Tests		min – max Continual assessment - 1 (written)			
			• \$	tructure of eukaryotic cells; structural characteristics dur and apoptosis; structural spo different cell types	ing mitosis, meiosis		
			Final e	xam: final test (written) Phys	iology		
			Trans	port through cell membrane,			
			physio	logy of cell organelles,			
			physio	logy of nucleus, cell informat	tion systems,		

			specialized cell systems	25 - 43 points
			e	nal exam is given according to the basis of the sum of points obtained in
	17.2	Seminar paper/project (oral/written presentation)		min – max
	17.3	Active participation	Theoretical course Practical course Completed textbook	min – max 1-3 4-7 mandatory
18.		ng criteria s / grade)	up to 59 points from 60 to 68 points from 69 to 76 points from 77 to 84 points from 85 to 92 points	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B
			from 93 to 100 points	10 (ten) A

19.	Requirement for signature and taking the final exam Language of instruction			activities. Conditional In order to ge points in both a seminar paj In order to ta minimum poi student has n	s required to actively folle criteria for assessment of et a signature, the student in theoretical and practical per; ke the final exam, the student ints in the three continual ot obtained the minimum he/she will be obligated to	of knowledge should obtain courses, and lent should of assessments points in the	e: n minimum l to present obtain the ; If the continual	
20.	Language of	of inst	ruction	Macedonian				
21.	Method of quality of to		U	Attendance of students to classes and interactive participation in theoretical and practical lessons and anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	Textbooks							
		Ma: 1.	ndatory Guyton AC,	Hall JE.	Textbook of Medical Physiology 12 th edition.	Elsevier, London,	2011	
	22.1.	2.	Milenkova Kostovska N	L, N.	Structural characteristics of eukaryotic cells.	Skopje	2011	
		3.	Cooper GM RE.	l, Hausman	The Cell: A Molecular Approach.	Sinauer Associat es, Boston, USA	2016	
	22.2.	Ado	ditional		1		1	

		1	Widmaier E, Raff H, St	rang	Vander's	s Huma	n	McGraw -	2013
		-	K.	ang	Physiol		The		2010
					Mechan	<b>U</b> .			
					Function		2	Laucation	
1.	Subject			CLINICAL BIOCHEMISTRY					
2.	Code			MED-424					
3.	Study Program			General medicine					
4.	Organizing Institution (Unit,			UKIM-Faculty of Medicine					
	Institute, Chair, Department)			Department of Biochemistry and Clinical					
				Bioch	nemistry				
5.	Education	al de	egree (first or second	Integr	rated cyc	ele			
	cycle)		-						
6.	Study year	r /sei	mester	Fourt	h/VIII	7.	Numb	er of	1.5
							credits	5	
8.	Responsib	le te	acher						e given by
				the pr	ofessors	, mem	bers of	the Depart	ment.
9.	Preconditi	ions:		Comp	oleted Bi	ochem	istry $\overline{2}$	course	

10.	Teach			gram (competencies):							
	•			• •	he diagnosis of various diseases;						
	•	clinical practice and			oratory parameters important for						
		ennieur pructice und	unitititi	itiai diagnosis							
11.	Conto	nts of the study nr	ogram	•							
11.	Contents of the study program: Theoretical course:										
		<ul> <li>Clinical enzymology;</li> </ul>									
		<ul> <li>Plasma proteins and their roles in diagnosis of various disease;</li> </ul>									
	<ul> <li>Hyperlipoproteinemia, atherosclerosis, CAD, hypoliporoteinemia;</li> </ul>										
		<ul> <li>Liver function tests; jaundice, cirrhosis;</li> </ul>									
		<ul> <li>Clinical biochemistry of renal disease; biochemical parameters in diagnosis of</li> </ul>									
		kidney disease, A	•		I I I I I I I I I I I I I I I I I I I						
		<ul> <li>Tumor markers in diagnosis and prognosis of malignity disease;</li> </ul>									
		<ul> <li>Diabetes mellitus</li> </ul>	-	1 0							
		Neonatal screeni	ng;								
		<ul> <li>Fluid and electro</li> </ul>	lyte bal	lance;							
		<ul> <li>Biological factors that influence biochemical parameters.</li> </ul>									
		ical course:			A						
		<ul> <li>Preparation and oral presentation of seminar paper;</li> <li>Visit to a clinical</li> </ul>									
	lat	laboratory.									
12.	Moth	de of studying. cla	ee roor	n oriented lectures inte	ractive lectures, group work,						
12.		cal training, seminar		ii orienteu lectures, inte	factive fectures, group work,						
	practic	car training, seminar	paper.								
13.	Total	no. of hours:		45 hours							
14.	Distri	bution of the availa	able tin	ne							
15.		of educational	15.1	Lectures-theoretical	30 hours						
	activit	ty		course							
			15.2	Practicals (laboratory,	4 hours						
				clinical),	11 hours Seminars						
				seminars, team							
16			161	work							
16.			16.1	Project assignments							
	Other	r types of activities		Individual tasks							
15			16.3	Home studying	15 hours						
17.		sment of knowledg	je:								
	points			1							
	17.1	Einel avem		Subjects Clinical Chan	nistary.						
		Final exam		Subject: Clinical Cher	minmax.						
				Oral exam	37-65						
				points	37-05						
	17.2	Seminar work/pro	iect	points	minmax.						
	17.2	(presentation: wri	•	Seminar works	1-7.5 points						
		and oral)	tten	Seminar works	1-7.5 points						
	17.3	Active participation	n		minmax.						
	17.5	rietive participatio	/11	Theoretical course	points 21-22.5						
				Practical course	points 21 22.5						
18.	Know	ledge assessment		up to 59 points	5 (five) F						
	criteri			60 to 68 points	6 (six) E						
	(poin	ts/grade)		69 to 76 points	$\frac{0(SK) D}{7(Seven) D}$						
				77 to 84 points	8 (eight) C						
1	1		l	······································							

1		F					
				85 to 92 points		9 (nine) B	
			93	3 to 100 points		10 (ten) A	
Criter	ia for ol	otaining a	Conditional criteria for assessment of knowledge: I				
signat	ure and	taking the	order to receive the professor's signature for the course,				
final e	final exam			and to enroll the oral exam the students are requested to			
				1			
					•		
Langu	age of	the course	English				
Method for evaluation of			Anonymous student's evaluation of the subject, teachers				
the qu	the quality of education			and collaborators involved in the educational activities			
Litera	ture						
	Mand	atory textboo	ks				
		Autho	r	Title	Publisher	Year	
22.1	1	Gaw A, et al.;		Clinical	Churchill	2008	
				Biochemistry	Livingstone:		
				-	Elsevier		
Additional literatu		ional literatur	e		I		
22.2		Autho	r	Title	Publisher	Year	
	signat final e Langu Metho the qu Litera	signature and final exam Language of t Method for ev the quality of Literature 22.1 1 Addit	Language of the course         Method for evaluation of the quality of education         Literature         Mandatory textboo         22.1       1         Gaw A, et a         22.2         Additional literature	92         Criteria for obtaining a signature and taking the final exam       Conditional order is and to active         Language of the course       Englise         Method for evaluation of the quality of education       Anony and construction         Literature       Mandatory textbooks         22.1       1       Gaw A, et al.;	signature and taking the       order to receive the profe         final exam       and to enroll the oral exat         Language of the course       English         Method for evaluation of       Anonymous student's evaluation of         the quality of education       and collaborators involve         Literature       Mandatory textbooks         22.1       1       Gaw A, et al.;         Clinical       Biochemistry	93 to 100 points         93 to 100 points         Oriteria for obtaining a signature and taking the final exam         Conditional criteria for assessment of knowle order to receive the professor's signature for the and to enroll the oral exam the students are requactively participate in the planned activities.         Language of the course       English         Method for evaluation of the quality of education       Anonymous student's evaluation of the subject, and collaborators involved in the educational activities         Literature       Mandatory textbooks         22.1       1       Gaw A, et al.;       Clinical Biochemistry       Churchill Livingstone: Elsevier         22 Additional literature	

1.	Subject	PHARMACOLOGY				
2.	Code	MED 323				
3.	Study Program	General Medicine				
4.	Institution (Unit, Institute, Chair, Department)	Ss Cyril and Methodius University, Medical Faculty, Department of Anatomy				
5.	Degree of education (first or second cycle)	Integrated studies				
6.	Study year/semester	Third/ (VI) 7. Number of 7 credits 7				
8.	Responsible teacher	Prof. Dimce Zafirov, PhD, MD				
9.	Preconditions	Obtained loans for VI semester				
10.	Teaching goals: • Introduction to pharmacology as a subjec • Introduction to pharmacodynamic charac	t and its aims; teristics od drugs, how a drug affects an organism,				

<ul><li>modes of action of drugs upon the body.</li><li>Achieving basic knowledge of pharmacokinetic, the branch of pharmacology concerned with the movement of drugs within the body and the importance of knowing the pharmacokinetic properties of drugs.</li></ul>
• Acquiring basic knowledge about toxicology and toxicological research as well as their importance in the development of drugs
<ul> <li>Treatment of addiction and drug abuse</li> <li>Understanding the basic principles of pharmacogenetics</li> <li>Acquiring knowledge of special pharmacology, in meaning of pharmacodynamic groups and their therapeutic areas.</li> </ul>
• Students will learn how to prescribe medicines and will gain understanding of all pharmaceutical dosage forms.

11.	Drief	content:									
11.		etical classes:									
		oduction to pharmac	ology								
			lology.								
	<ul> <li>Pharmacodynamia.</li> <li>Pharmacokinetics</li> <li>Drug addiction</li> <li>Pharmacogenetics</li> </ul>										
	<ul><li>Pharmacology of central nervous system, psychopharmacology, vegetative nervous system,</li></ul>										
		respiratory system, cardiovascular system, hematology, digestive system, urinary system,									
		hormones, vitamins, antimicrobial drugs.									
		<ul> <li>Toxicology (separation of toxins, general principles of poisoning, treatment and specific</li> </ul>									
		atment of poisoning).		<b>C</b> 1		•					
		ical classes:									
		armacography	2								
		armaceutical dosage		1 • •.	1						
	• Dei	monstrating experim	ental mode	els: <i>in vitro</i>	and <i>in vivo</i> .						
12.	Metho	ods of studying:									
	Interac	ctive teaching during	glectures, p	practical tra	inings and seminars.						
13.		available time:			210 classes						
14.	Organ	ization of the course			105 classes - theoretical course, practical						
					course						
						individual learning					
15.		of teaching	15.1.	Theoreti	cal course	55 classes					
	activit	activities		Dreatical	a anna a (lak a natamu	<b>5</b> 0 alagaa					
			15.2.		course (laboratory, seminars, group	50 classes					
				work	seminars, group						
16.	Other	forms of activities	16.1.	Practice		classes					
10.	Other	forms of detryffies	16.2.			classes					
			16.2.		al (home) learning	105 classes					
17.	Metho	od of assessment	10.5.	marviau	ar (nome) rearning	105 classes					
17.	17.1	Tests				min – max					
	17.1	10305	Continu	ual assessn	ent - points	18 - 30					
					1						
			Continu	al assessme	ent of knowledge:						
			Tw	o written te	ests						
					sic pharmacology (m	-					
			Sec	cond test- s	pecial pharmacology	(min 12, max 20 points)					
			Oralow	amination	* poin	min – max ts 24-41					
				al examina	1						
			1 I actili	ai vaannild	pom pom	0-12					
			*Oral e	examinatio	n (integrative) – 3	questions on the basis of					
						e field of pharmacology is					
		Final test		-	important for underst						
		1			•	<u> </u>					
						ills) – pharmacography and					
			pharma	ceutical dos	sage form.						

pharmaceutical dosage form.
The student is obliged to score a minimum of the foreseen points for each part of the exam, in order to take the final exam. Otherwise, the exam is deemed to have failed.
-------------
18.
19.
20.
21.
22.
<i>LL</i> .

1.	Goodman & Gilman's	The Pharmacological	Tabernak 11	2011
	Laurence L.Brunton, John	Basis of Therapeutics		
	S.Lazo, Keith L.Parker			
2.	Varagic V, Milosevic P	Pharmacology	Elit Medi ca	2012
			23	
			izdanie	
3.				
4.				

1.	Subject	CLINICAL PHARMACOLOGY					
2.	Code	MED-425					
3.	Study Program	General Medicine					
4.	Institution	Ss Cyril and Methodius University, Medical					
	(Unit, Institute, Chair, Department)		nent of Pharmaco	logy			
5.	Degree of education	Integrated cycle					
	(first or second cycle)						
6.	Study year/semester	Fourth /VIII 7. Number of 1.5 credits					
8.	Responsible teacher	Assoc.Prof. Dim	nce Zafirov, PhD,	MD			
9.	Preconditions	Fulfiled condition	on to inroll in the `	VII seme	estar		
10.	Teaching goals:						
	<ul> <li>Introduction to the subject and tasks of the clinical pharmacology and its practical meaning in the todays therapy;</li> <li>Understanding the basics of clinical pharmacology and training the students to use its principles in practise, in particular to specific patients groups;</li> <li>Introduction to basic knowlege in managing clinical studies;</li> <li>Trainig the students to identify, follow and report adverse effects of drugs;</li> <li>Optimisation, therapy individualisation and dosing regiments of specific drugs; • Knowlege of clinical importance of drug interactions.</li> </ul>						
11.	Brief content:						
	<ul> <li>Theoretical course:</li> <li>Introduction to clinical pharmacology;</li> <li>Design and conduct of clinical drug studies; bioequivalence studies and good clinical practice standards during study performance;</li> <li>Drug interactions and its clinical significance;</li> <li>Use of drugs in elderly patients, children, during pregnancy and lactation and in patients with renal and hepatic impairment;</li> <li>Adverse drug reactions and Pharmacovigilance.</li> </ul>						
	<ul> <li>Practical lessons:</li> <li>Preparation of key documents for conduct of clinical trials (study protocol, case report file, informed consent);</li> <li>Individual dosing models for drugs, determination of dosing regiments acording to drug blood concentrations and acording to therapeutic effect of specific drug groups;</li> <li>Practical aspects of adverse effects reporting using electronic reporting system.</li> </ul>						
12.	Methods of studying:						
	Interactive teaching during lectures, practic		nars				
13.	Total available time:	45 classes					

14.	Organ	ization of the course		30 classes - the course, semina	eoretical course, practical rs		
				-	me individual learning		
15.	Forms activit	of teaching ies	15.1.	Theoretical course	20 classes		
			15.2.	Practical course, Seminars	10 classes		
16.	Other	forms of activities	16.1.	Practice	classes		
			16.2.	Individual tasks	classes		
			16.3.	Individual (home) learnin	ng 15 classes		
17.	Metho	d of assessment	10.51	Indi (Tadai (Itoliic) Tourini			
17.	17.1	Tests			min – max		
	17.1	10303	Contin	ual assessment* - points 1			
			Written (min.12 1 study	e-max 20 points) case of individual dosage re	egiment (tim work)		
			(min. 6·	-max. 10 points) Oral examination (intergr questions in order to detern knowledge of the material Pharmacology relevant for purpose.	nine the integrative learnt in Clinical		
			• Practical examination (grading accordingly to skills catalogue): Text materials prepared for the practical course				
				Text materials prepared for	the practical course		
			part of	dent has to fulfill the minim	um recuired points for every be able to get the scores for th		
	17.2	Seminar paper/project (oral/written	part of	dent has to fulfill the minim the examination in order to b	um recuired points for every be able to get the scores for th		
	17.2	paper/project	part of final ex	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course	um recuired points for every be able to get the scores for th exam can not be passed. min – max min – max 1-4		
		paper/project (oral/written presentation) Active	Theoret Practica Theoret 51%-60 61%-70 71%-85	dent has to fulfill the minim the examination in order to b amination. In conterary the	um recuired points for every be able to get the scores for th exam can not be passed. min – max min – max		
		paper/project (oral/written presentation) Active	Theoret Practica Theoret 51%-60 61%-70 71%-85 86%-10	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course al course ical course attendance % 1 point %-2 points %-3 points 0%-4 points 1 course attendance	um recuired points for every be able to get the scores for th exam can not be passed. min – max min – max 1-4		
		paper/project (oral/written presentation) Active	Theoret Practica Theoret 51%-60 61%-70 71%-85 86%-10 Practica 4 points Interact	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course al course ical course attendance % 1 point %-2 points %-3 points 0%-4 points 1 course attendance	um recuired points for every be able to get the scores for th exam can not be passed. min – max 1-4 9 – 14 6 points-max. 10 points		
18.	17.3 Gradin	paper/project (oral/written presentation) Active participation	Theoret Practica Theoret 51%-60 61%-70 71%-85 86%-10 Practica 4 points Interact	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course ical course ical course attendance % 1 point %-2 points %- 3 points %- 4 points 1 course attendance 1 course attendance	um recuired points for every be able to get the scores for th exam can not be passed. $\hline min - max$ $1-4$ $9-14$		
18.	17.3 Gradin	paper/project (oral/written presentation) Active participation	part of trinal exfinal exfinal exfinal exTheoretPracticaTheoret51%-6061%-7071%-8586%-10Practica4 pointsInteractPractica4 pointsInteractPracticafree	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course ical course attendance % 1 point % - 2 points % - 3 points 0% - 4 points al course attendance % ive knowledge check : min of al course colloquium: 2 point up to 59 points om 60 to 68 points	um recuired points for every be able to get the scores for th exam can not be passed. min – max 1-4 9 – 14 6 points-max. 10 points tt 5 (five) 6 (six) E		
18.	17.3 Gradin	paper/project (oral/written presentation) Active participation	part of trinal exfinal exfinal exfinal exTheoretPracticaTheoret51%-6061%-7071%-8586%-10Practica4 pointsInteractPractica4 pointsInteractPracticafree	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course ical course attendance % 1 point %-2 points %- 3 points %-3 points 00%-4 points al course attendance ive knowledge check : min al course colloquium: 2 points up to 59 points	um recuired points for every be able to get the scores for th exam can not be passed. min – max 1-4 9 – 14 6 points-max. 10 points tt		
18.	17.3 Gradin	paper/project (oral/written presentation) Active participation	part of t final ex Theoret Practica Theoret 51%-60 61%-70 71%-85 86%-10 Practica 4 points Interact Practica	dent has to fulfill the minim the examination in order to b amination. In conterary the ical course ical course attendance % 1 point % - 2 points % - 3 points 0% - 4 points al course attendance % ive knowledge check : min of al course colloquium: 2 point up to 59 points om 60 to 68 points	um recuired points for every be able to get the scores for th exam can not be passed. min – max 1-4 9 – 14 6 points-max. 10 points tt 5 (five) 6 (six) E		
18.	17.3 Gradin	paper/project (oral/written presentation) Active participation	part of trinal exfinal exfinal exfinal exTheoretPracticaTheoret51%-6061%-7071%-8586%-10PracticaPractica4 pointsInteractPracticafracticafracticafracticafractica	dent has to fulfill the minim the examination in order to b amination. In conterary the amination. In conterary the ical course ical course attendance ical course attendance % 1 point %-2 points %-3 points 00%-4 points al course attendance s ive knowledge check : min al course colloquium: 2 points up to 59 points om 60 to 68 points om 69 to 76 points	um recuired points for every be able to get the scores for the exam can not be passed. min - max $1-4$ $9-14$		

19.	Requirement and taking t			The stude activities	The student is required to actively follow all of the planned activities.					
20. 21.	Language of instruction Method of monitoring the quality of teaching process Taxtbooks			<ul> <li>Conditional criteria for assessment of knowledge:</li> <li>In order to get a signature, the student should obtain minimum points in both theoretical and practical courses, and to present a seminar paper;</li> <li>In order to take the final exam, the student should obtain the minimum points in the three continual assessments;</li> <li>If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.</li> <li>The grade in the final exam is given according to the grading table, and on the basis of the sum of points obtained in all of the activities.</li> <li>English</li> <li>Students anonymous evaluation for the course, teachers and associates that participate in the lessons.</li> </ul>					esent in the them ling of	
22.	Textbooks	1								
		1.	pharmacology and toxicology			Authorized le		Akadem	2013	
	22.1. H.P.Rang J.M. Ritte			ng, M.M.Dale, ter, R. Flower				ski pecat		
			James M Ritter, Lionel D Lewis, Timothy GK Mant, Albert Ferro			A Textbook of Clinical Pharmacolog Therapeutics	y ant	Hodder Arnold, an imprint of Hodden Education	2008	
	22.2.		Arthur J. Atkinson			Principles of Pharmacolog Second Editi	y,	Elsevier		2007
1. 2.	Subject Code					SICAL ABILITATI 515	MEDI ON	CINE	A	ND
<u>3.</u> 4.	Code         Study program         Institution         (Unit, Institute, Chair, Department			Study for Doctors of Medicine"Ss Cyril and Methodius" University,						
5.	Degree of (first or set	cond c	ycle)	Integrated 6-year study						
6.	Study year	seme	star		Fifth/	IX 7.	Numb ECTS		1	
8.	Responsib				ECTS credits Prof. Erieta Nikolikj Dimitrova, MD, MSc, PhD, PRM specialist					

9.	Preconditions	Preconditions Requirement for the ninth semester fulfilled						
10.	Teaching goals:							
	00	edge for	r fundamentals of physical therapy					
	- To acquire knowle	edge for	r physiological and therapeutic effects of some					
	physical modalitie	s						
	- To understand positive effects of kinesitherapy (exercise therapy) and							
	occupational therapy							
	-	-	r orthopaedic devices and their use in rehabilitation					
	-		procedures for rehabilitation of patients with					
	-	-	c, orthopaedic disorders, child diseases, posttraumatic					
			of cardiovascular and pulmonary diseases					
		ons and	contraindications for physical therapy and					
	rehabilitation	daa fa	r multidisainlinery annroach in rehabilitation					
	-	-	r multidisciplinary approach in rehabilitation education of patients about their need for physical					
	therapy and rehabi							
	therapy and reliab.	mation	ireament					
11.	Brief content							
	Theoretical course:							
	-	•	nedicine and rehabilitation					
	- Patient's examinat	tion						
	- Heat therapy							
	- Light therapy							
	- Hydrotherapy							
	- Balneotherapy	laatrat						
	<ul> <li>Fundamentals of e</li> <li>Manual therapy- r</li> </ul>		e, and spinal traction					
	- Fundamentals of e							
	- Occupational there		liorupy					
	- Orthopaedic devic							
	_		with rheumatologic diseases					
	- Rehabilitation of p	oatients	with neurologic diseases					
	- Rehabilitation of p	oatients	with orthopaedic diseases and posttraumatic					
	conditions							
	- Rehabilitation of c							
	- Rehabilitation of p	patients	with cardiology and pulmonary diseases					
	-							
	Practical lessons:	<b>1.</b>	tio mahahilitation mua anama					
		-	itic rehabilitation programs					
	and illnesses (infra –red r		methods of physical therapy in a variety of injuries					
12.	Methods of studying:	ays, un	aviolet rays, lee therapy)					
12.	• 5	ring le	ctures and practical trainings, classes of practical					
	instruction, independent s							
13.	Total available time:	tuuj oj	30 classes					
14.	Organization of the cours	e	15 classes - theoretical course, practical					
1	organization of the cours	C	course					
			15 classes - home individual learning					
15.	Forms of teaching	15.1	Lectures-theoretical 7 classes					
10.	activities		lessons					
		15.2	Practical instructions, 8 classes					
			clinical lessons, team					
			work					

16.	Other	forms of activitie	es 16.1	Practice				
			16.2	Individual tasks				
			16.3	Individual	home 15	classes		
			10.5	learning				
17.	Metho	od of assessment						
	17.1	Tests				min – ma	ax	
			Conti	nual assessment - 1	1 (written)	54-90 points		
		Final exam	Final	exam: final test				
		T mar exam		nal test is written	54-90 poin	ts		
					-			
				e grade in the fina	-	-		
				ading table, and or		of the sum of po	oints	
	17.0	Cominan	ob	tained in all of the	e activities.			
	17.2	Seminar paper/project						
		(oral/written						
		presentation)						
	17.3	Active				min – max		
	17.5	participation	Theor	etical course		1-3 points		
		purilipution		Practical course		5-7 points		
18.	Gradi	ng criteria (point		up to 59 points		*	5 (five) F	
	/ grad			from 60 to 68 points		6 (six) E		
	U			1 69 to 76 points		7 (seven) D		
				77 to 84 points		8	(eight) C	
			from	1 85 to 92 points			(nine) B	
				from 93 to 100			0 (ten) A	
				points				
19.	-	rement for signat		student is required	l to actively	follow all of th	e planned	
	and ta	king the final exa		activities.				
				<b>Conditional criteria for assessment of knowledge:</b> In				
				order to get a signature, the student should obtain				
				minimum points in both theoretical and practical				
				courses. The grade in the final exam is given according to the grading table, and on the basis of the sum of				
				to the grading table, and on the basis of the sum of points obtained in all of the activities.				
			pom	is obtained in an o				
20.	Langu	age of instruction	n Engl	ish				
21.	-	od of monitoring		ent's anonymous	evaluation	of the subject a	nd	
	the qu	ality of teaching	teach	ning stuff who are	involved in	the education.		
	proces	55						
22.	Литер	ратура						
		Задолжителна						
		-	втор	Наслов	·1 1 <del>·</del>	Издавач	Година	
	22.1	1 Erieta N	•	Textbook: Fiz	Ikalna Las	erjet Skopje	2011	
	22.1	Dimitro	<i>,</i>	medicina i				
		2011	, Skopje,	rehabilitacija (Physical me	dicine			
		2011		and rehabilitation				
		Доплнителна л	итератур		···/,			
	22.2		втор	Наслов		Издавач	Година	
1	r.op ABIO		r	11400100				

		Eds.J. De Lisa	In Physical Medicine and Rehabilitation. Principles and Practice Some Chapters:2011			
			-Therapeutic physical modalities - Massage -Rehabilitation of patients with amputation of lower extremity - Scoliosis and other deformities of the spine - Orthosis -Rehabilitation in the water etc.			
	2	Eds. Randall Braddom	InPhysical2011Medicine and Rehabilitation. Some Chapters: - Modalities of physical agencies - Therapeutic exercises2011			
1.	Subject Code		GYNECOLOGY AND OBSTETRICS MED-422			
2. 3.	Study Progr	am	General Medicine			
4.	Institution		UKIM-Medical Faculty			
		ute, Chair, Departmen	Department of Gynecology and Obstetrics			
5.	U	ducation (first	Integrated 6-year study			
-	or second cy					
6.	Study year/s	semester	Fourth/VIII7.Numberof12Fift/IXECTS credits			
8.	Responsible	teacher	Head of department Prof. Goran Dimitrov * teaching is performed by all members of the department			
9.	Precondition	18	Filled for enrollment in VII semester			

## 10. **Objectives of the course program (competences):**

• The student learns and mastered the skills within the framework of rationaldiagnostics and the modern treatment of gynecological diseases.

• To familiarize the student with the basic principles of diagnosing operational preparation and treatment within Gynecology and Obstetrics.

• The student can rationally be able to evaluate and refer to the treatment of acutegynecological and obstetric diseases, which if not diagnosed and treated in a timely manner can end up fatal.

• Student be able to evaluate and treat gynecological and obstetric diseases, monitorand assess normal pregnancy

11.		e content: etical instruction:
	A. Gy	necology Contents: Introduction to gynecology and ethical principles
	-	Examination and objective finding in gynecology
	-	Gynecological neuroendocrinology
	-	Pelvic anatomy
	-	Embryology with histology
	-	Basics in surgical endocrinology
	-	Growth, development and sexual maturation
	-	Disorders of puberty and adolescence
	-	Menstrual cycle and its disorders
	-	Sexually transmitted diseases
	-	Inflammation of the genital organs
	-	Emergency and critical conditions in gynecology
	-	Reproductive endocrinology and male infertility
	-	Tubal factor infertility and endometriosis
	-	Assisted reproduction
	-	Pelvic prolapse
	-	Urinary incontinence
	-	Genital fistulae
	-	Diagnostic methods in gynecology
	-	Perimenopausal HRT
	-	Contraception and paling of the family
	-	Benign tumors of the vulva, vagina and cervix
	-	Benign tumors on the body of the uterus
	-	Benign tumors of adnexa
	-	Malignant tumors on the vulva, vagina and cervix
	-	Malignant tumors on the body of the uterus
	-	Malignant tumors of adnexa

-	Early diagnosis and prevention of cervical cancer and colposcopy -
	Benign and malignant tumors of the breast
<b>B. Co</b>	<b>ntent by Obstetrics:</b> Conception. Morphological development of the placenta.
-	Fetus and placental membranes.
-	The construction and function of the placenta.
-	Placental hormones.
-	Placenta previa
-	Abrubtio placente
-	The use of drugs in pregnancy - Urgent conditions in pregnancy
_	Graviditas E.U.
_	Bleeding in the first and second half of pregnancy
-	Breech delivery
-	Abnormalities on the placenta.
-	Embryopathy and fetopathy.
-	Prenatal diagnostics.
-	Genetic counseling.
-	Normal and abnormal pelvis
-	Multiple pregnancy
-	Infections in pregnancy
-	PPO,ALSy
-	IUGR
-	Rh incompatibility and Rh sensibilization
-	Diagnostic and therapeutic interventions in pregnancy
-	Gestosis
-	Fetus as an object
-	Normal labor. Normal deliveries.
-	Fetal distress

-	
	Prolonged pregnancy - Diabetes in pregnancy
-	Dystocia.
-	Induction of labor
-	Mall rotations and mall presentations
-	Completion of delivery with a vaginal intervention
-	Completion of delivery with S.C.
-	Anesthesia and analgesia in obstetrics
-	Ultra sound in pregnancy
-	Diseases of the trophoblast
-	Puerperium
-	Pre-term and postpartum bleeding
-	Internist and surgical diseases in pregnancy
_	Ethical and legal aspects in perinatology
A. G	
A. G	
а, G -	gynecological history
A. G - -	gynecological history gynecological examination
A. G - - -	gynecological history
A. G - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology
A. G - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology
A. G - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology
A. G	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology
A. G	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding
A. G	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology
A. G	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology
A. G	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa
-	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient
- - - - - - - - - - - - - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological
-	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological
- - - - - - - - - - - - - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological
- - - - - - - - - - - - - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological y BSTETRICS :
- - - - - - - - - - - - - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological y
- - - - - - - - - - - - - - - - - - -	gynecological history gynecological examination cytological investigations taking swabs Rtg diagnostics in gynecology laparoscopic diagnostics in gynecology biochemical investigations in gynecology RCUI and CEF Ultrasound diagnostics Acute conditions of gynecological origin: acute pain and acute bleeding Painful syndrome in gynecology Forensic research in gynecology Benign diseases in gynecology: vulva, uterine cervix, uterine body, adnexa Malignant diseases in gynecology: vulva, uterine cervix, uterine body, adnexa tment of an urogenital patient Operative cuts, suture, suture material and instruments in gynecological y BSTETRICS :

	- - - - compl	keeping a normal leading to birth in Abortion techniqu childbearing of ma obstetric surgery: ete the birth in the p	the pelves in ob ternity externa	ostetric practice RC pathways, epizoo l bone, Perforatio	CUI totomy	and suture	ery to	
12.	Learning methods: Interactive lectures, exercises / seminars							
13.	Total	available time:		360 cla	asses			
14.	Organ	ization of the cours	e	/				
15.	Forms activit	of teaching ies	15.1	Theoretical cour	se	Gynecology – Obstetrics – 8		
			15.2	Practical c seminars, team	course, work	Gynecology - Obstetrics - 6		
16.	Other	forms of activities	16.1	Practice		classes		
			16.2	Individual tasks		classes		
			16.3	Individual (h learning	nome)	102 classes		
17.	Metho	od of assessment бо,	дови					
				Continual assessment - points 18-30 * Continual assessment of knowledge (colloquium 4 written 1 and 2 colloquium - questions in the field of gynecology 3 and 4 colloquium - issues in the field of obstetric				
		Final exam		Oral examination Practical examin		points points	міп-мах. 27 - 45 6 — 10	
	17.2	Seminar paper/pro (oral/written presentation)	oject	/				
	17.3	Active participation	on	Theoretical course	se	points points	міп-мах. 1 - 3 11 – 14	
18.	Gradi	ng criteria (points	up to 5	59 points	5 (five)	) F		
	/ grade	•	_	50 to 68 points	6 (six			
				69 to 76 points	7 (sev			
			from 7	77 to 84 points	8 (eigh	t) C		
			from 8	35 to 92 points	9 (nine	) B		
			from 9	93 to 100 points	10 (ten	) A		

19	. Requirement for signature	Conditional criteria for assessment of knowledge:
	and taking the final exam	Conditional criteria:
		In order to obtain a signature, a student is required to attend the theoretical and practical classes and to score
		minimum points.
		In order to enter the final exam, the student should pass the anticipated continual assessments or to earn a minimum of 30% of the total number of points envisaged
		for continual assessments, and in the exam session he first takes the undue continual assessments, and then
		approaches the final exam.
		The grade for the course is formed according to the rating
		table, based on the sum of the points from all the

			1	activit	ies, th	e continual as	sessments and the fin	al exam	
20.	Langu	age of	instruction ]	Macedonian					
21.	Method of monitoring the quality of teaching process			Student anonymous evaluation of the subject and the teachers and collaborators participating in the teaching					
22.	Textb								
		Mand	atory						
			Author			Title	Publisher	Year	
		1	Stephen G. Jennifer R. Nibil, Joe Lee Simpson	,	Norı prob	etrics: nal and lematic nancies	Tabernacul, Skopje (translation with a project of the Government of the Republic of Macedonia)	2011	
	22.1	2	Jonathan S. Berek		•	ecology k And Novac	Tabernacul, Skopje (translation with a project of the Government of the Republic of Macedonia)	2011	
		3	Willibald Pschyrembel		Prac Gyne	tical ecology	Medical Naclada Belgrade - Zagreb	1977	
		Addit	ional						
	22.2	1	Author Barbara Hoffu John Schorge Lisa Halvorso Karen Bradsh F.Cunninghar	e, on, naw,	-		Publisher McGraw Hill Profesional	Year 2012	
		2	F.Cunninghan Kenneth Leve Steven Bloon John Hauth, Dwight Rouse Catherine Spo	m, eno, n, e,	Will	cle II. iams Obstetric Edition	McGraw Hill Professionsl	2009	
1.	Subjec	t				GYNECOLOG CLINICAL PR		TETRIC	
2.	Code					MED 623			

3.	Study Program	General Medicine		
4.	Institution	Ss Cyril and Methodius University, Medical		
	(Unit, Institute, Chair, Department)	Faculty, Department of Gynecology and		
		Obstetrics		
5.	Degree of education	Integrated 6-year study		
	(first or second cycle)			
6.	Study year/semester	Sixth / XI - XII 7.Number of 9		
		ECTS credits		
8.	Responsible teacher	Head of department		

		Doc. d-r Goran Dimitrov *teaching is performed by all members of the department	
9.	Preconditions	Credits achieved (passed exam) from Gynecology and obstetrics	
10.	Objectives of the course program (competences): Introduction to the diagnostic and therapeutic procedures in the area of urgent gynecology and obstetrics.		

11.	Course content:
	<ul> <li>Perinatalogy <ul> <li>Filling in obstetric history and birth protocol</li> <li>Obstetric examination: a condition of the cervix, dilatation, fetal heals, presentation, advancement of birth.</li> <li>Obstetric examination: pelvimetry, annioscopy.</li> <li>Monitoring of the mother: cardiotocography, ph-metric intra partum, ph - blood metric from a new-born</li> <li>Participation in spontaneous labor: head and pelvic treatment, repair of soft-tissue cleavage and episiotomy</li> <li>Assistation in delivery with caesarean section and vaginal delivery obstetric operations: vacuum, forceps, baby extraction</li> <li>Neonatal treatment</li> <li>An ultrasound examination of a pregnant woman in the first half of pregnancy</li> <li>Participation in everyday work in the clinic for risky pregnancy</li> <li>Participation in the work of the Intensive Peripartum Care Unit Gynecology:</li> <li>Gynecological examination, taking a swab for microbiology and Papanicolau, colposcopy examination</li> <li>Participation in the daily work of the gynecological departments, taking a history, filling in gynecological history</li> <li>Assistance in small gynecological interventions: curettage, biopsy,</li> <li>spiral insertion, cyst posture, cystoscopy</li> <li>Ultrasound gynecological examination</li> <li>Assistance to major gynecological surgeries: abdominal and vaginal hysterectomy</li> <li>Assistance in minor and minimally invasive gynecological operations: hysteroscopy, laparoscopy, TVT and TOT prosthesis, IVS prosthesis</li> <li>Working in a gynecological clinic: urogynecological, oncological, ultrasound, colposcopic, ambulance for human reproduction, cytogenetic laboratory, in-vitro fertilization</li> </ul></li></ul>
	<ul> <li>Family Planning and Contraception, Artificial abortion Assistance in first and second trimester</li> <li>The practice is carried out within 4 working weeks with a full time of 8 hours, organized in 4 rounds during the XI and XII semesters: <ul> <li>stay in the maternity room</li> <li>stay in one operational unit</li> <li>stay in the clinic for risky pregnancies</li> <li>stay in the colposcopy clinic and the gynecological ultrasound clinic</li> </ul> </li> <li>It takes place in groups of 2-5 students on a mentoring principle with professors and assistants. During the tour, the departments and mentors change.</li> <li>Everyday activities of the student will be recorded in a special "diary of activities " that will be verified with the mentor's signature.</li> </ul>
12.	<ul> <li>Learning methods:</li> <li>Participation in the expert meetings of the clinic</li> <li>Participation in morning visits</li> <li>Participation in the daily work of the departments at the Clinic for Gynecology and Obstetrics</li> </ul>

	Knowledg The studen referring to taking a h different of diagnosis a Key skills The studen develop su how to do	e and U nt will o admis history o departm and trea : nt will l urgical o a gyne to make	Understand acquire th ssion of a p of each de nents. The atment plan be able to culture and ecological e an ultraso	ing: eoretical k patient in h partment, student n and surgi apply the a d introduct examination	cnov osp as will cal acqu tion	is in the field of gyne wledge in the field o ital conditions, will le well as the peculiari get to know the treatment of individu nired knowledge of in to surgical principle and take a swab, fill tion of a pregnant we	of perim earn ab ities of setup al clini nterver es. Afte out ob	atology and gy oout the charactor clinical exami procedures for ical cases. ational ultrasour er practice, he w stetrics history	eristics of nation of working nd, and to vill know and birth
13.	Total avai	lable tir	me:		2	10 classes			
14.	Organizati	ion of tl	ne course			50 classes practice ) classes - home indiv	vidual	learning	
15.	Forms of t activities			15.1.		actical course		160 classes	
16.	Other form		-	16.1.	Inc	lividual (home) learn	ing	50 classes	
17.	Method of						-		_
					acti	ively participate in the	he prac	ctice during 4 v	weeks (20
	working d	ays, 8 h	ours daily	) min 1	mav				
	Practice *	r	points	60 - 1					
	* attendan			ivity (skill	s): 2	2.5 points			
18.	Grading ci					should earn a minimu	m of 6	0 points.	
	(points / g					assessment is description	ptive (j	passed).	
19.	Requireme		•			nal criteria:			
	and taking	, the fin	ai exam	passir and to	ig th ov	ignature and win a magnetic student is required ercome all the activited to program	to atte	nd the practice	
20.	Language	of instr	uction	Mace	don	ian			
21.	Method of	monito	oring the			nonymous evaluation		e course and tea	chers and
	quality of		g process	associ	ates	s participating in teac	hing.		
22.	Textbooks	1							
		Mand			-	• . 1	<b>D</b> • • •	1	**
			Author		_	itle	Publi		Year
		1.	Stephen C Jennifer H		_	bstetrics: ormal and		nacul, Skopje	2011
			Joe Lee S	,		oblematic	· ·	ct of the	
			300 LUC D	mpson	-	regnancies		rnment of the	
	22.1.							blic of	
			• •	<u> </u>	-	·		donia)	
		2	Jonathan	S. Berek		ynecology Berek nd Novak	(trans projec Gove Repu	rnment of the blic of	2011
1.	Subject					RADIOLOGY	wrace	donia)	<u>                                     </u>
1. 2.	Code					MED-316			
2. 3.	Study Prog	ram				General Medicine			
<i>3</i> . 4.	Institution					Ss. Cyril and Me	ethodir	is University	Medical
	(Unit, Instit	tute, Ch	air, Depar	tment)		Faculty, Departmen			uuu
5.	Degree of e		-	,		Integrated 6-year st		~~	

	(first or second cycle)					T	<u>г</u>		
6.	Study year/semester		III y V se	ear/ mester	7.	Number of ECTS credits	3		
3.	Responsible teacher		Assi Assi	Prof. Dr. Violeta Vasilevska-Nikodinovska Assist. Prof. Dr. Elizabeta Stojovska-Jovanovsl Assist. Prof. Dr. Maja Jakimovska- Dimitrovsk Assist. Prof. Dr. Biljana Prgova					
9.	Preconditions					of the profession	nal exam		
10.	Teaching goals:		1 40		· puir o	<u></u> processio			
	Learning fundamental concepts in radiology by systems in the human body Practical work by showing examples of radiological methods, normal anatomy and pathology by systems								
11.	Brief content of the study Theoretical course: How to perform radiology of ray physics. X-ray apparatu Medical preconditions for x Radiology methods for exan diaphragm). X-ray of normal chest.	examinatio s. Monitor a-ray imagi	and film. ng on the s	creen ai					
	Atelectasis, stasis and edema on x-ray image. Non-specific inflammatory diseases of thoracic organs. Lung tuberculosis and sarcoidosis. Professional, parasitic and fungal diseases of the lungs. Methods of examination of the heart and large blood vessels.								
	Normal x-ray image. Congenital and inherited diseases of the heart, aorta and large blood vessels. Esophagus: radiology methods and examination. Stomach and duodenum: methods of examination. Intestine and colon.								
	<ul> <li>Hepatobiliary tract and pancreas: methods of examination.</li> <li>Urgent radiodiagnostics of thoracic and abdominal organs.</li> <li>Urinary tract: methods of examination.</li> <li>Urinary tract: calculi.</li> <li>Radiologic diagnostics of the breast: methods of examination.</li> <li>Gynecologic radiodiagnostics: methods of examination.</li> <li>Basic concepts of radiological protection of patients and staff during radiodiagnostic</li> </ul>								
	procedures. Radiologic features when examining a child. Radiologic diagnostics of the skeleton. Trauma changes in bones and joints. Inflammation changes in bones and joints: tuberculosis osteomyelitis. Tumors of the skeleton: benign and semi-malignant. Endocrine hypo- and hyperfunction and avitaminous diseases of the skeleton. Vasography, fistulography: indications and pathology. Angiodiagnosis.								
	Interventional radiology. Vascular radiology. Non-vascular radiology.								
	Imaging diagnostics: US,								
12.	Methods of studying: Inter	ractive teac	ching durin		es, prac	tical courses and	colloqua.		
13.	Total available time			90 60 ala	1000 41	harmonical and	reation		
14.	Organization of the course			course	s	heoretical and prome individua			
				50 010		ionic marviaua	i iourining		
15.	Forms of teaching	15.1.	Lectures ·	- Theore	etical	30 classes			

1			
	15.2.	Practical course,	30 classes
		Seminars	

1.	Subject	FAMILY MEDICINE
2.	Code	MED524

16.	Other	forms of activities	16.1.	Practice					
			16.2.	Individual tasks					
			16.3.	Individual (home)	30 classes				
				learning					
17.	Metho	ds of assessment			Points				
	17.1 Continual assessment				lloquium 12 min 20 max.				
				Second	colloquium 12 min 20 max.				
	17.2	Final exam		Ducation land an	al examination 32 min 54 max.				
	17.2	Fillal exam		Flactical and 01	ar examination 52 min 54 max.				
	17.3	Seminar paper/pro	ject		minmax.				
		(presentation: oral)							
	17.4	Active participatio	n	Theoretical c					
				Practical cou					
					neoretical and practical course				
				30% - 50% - 1 51% - 80% - 2					
				81% - 100% - 3					
18.	Criteri	a for assessment of		ир to 59 бода	5 (five) F				
	knowl	edge (point/grade)	fr	от 60 to 68 бода	6 (six) E				
			fr	rom 69 to 76 бода	7 (seven) D				
				тот 77 to 84 бода	8 (eight) C				
				from 85 to 92 бода 9					
				m 93 to 100 бода	10 (ten) A				
19.	-	rement for signature		ditional criteria:					
	and tai	king the final exam		In order to get a signature, the student should attend					
				minimum 30% of theoretical and practical courses and to					
				obtain minimum points. In order to take the final exam, the student should pass					
				all anticipated continual assessments or to obtain					
				minimum 30% of the total number of points in the					
				continual assessments; in the examination session the					
			stud	student has to pass previously failed parts of continual					
			asse	assessments and then he/she can approach to take the					
				final exam.					
				The grade for the subject is given according to the					
			0	grading table, and on the basis of the sum of points					
				gained in all of the activities, continual assessment of					
	T	<u> </u>		wledge and final exar	n.				
20.		age of instruction	-	English					
21.		d of monitoring the of teaching process		-	aluation of the subject and				
22.	Textbo		meu	medical staff included in the teaching process.					
<i>LL</i> .	TEALUC	Mandatory							
			J.W.R.Y	oung. A short textbo	ok of clinical imaging, London				
			r Verlag,	-					
	22.		0		diology, WB Saunders				
		Compar							
		-	-	erventional Radiolog	y for Medical Students,				
		Springe							
	22.2	Additional							
1	LL.,	<sup>2.</sup> 1. Richard	TT ( 1		Atlas, Springer, 2017				

3.	Study Program	General medi	cine			
4.	Institution (Unit, Institute, Chair, Department)	UKIM Skopje of family mee		ical Faculty Dep	artment	
5.	Degree of education (first or second cycle)	Integrated stu	dies			
6.	Study year/semester	Five/X	7.	No of EKTS credits	1	
8.	Responsible teacher	Prof. Dr Ass.Prof. Kat	Gora arina S			
9.	Preconditions	Исполнет ул	ов за у	лис во IX семе	стар	
10.	<b>Objectives (competences):</b>					
	• To achieve knowledge, skills and attitude for effective patient orientated care and treatment: prevention, recognize and treatment of most common acute and chronic diseases and mental health.					
	• To achieve communication and co	nsultation skills	s in far	nily doctor pract	ice.	
	<ul> <li>To achieve skills for effective response to different complains and problems of patients, to support them to manage and to make prioritization of problems</li> <li>To understand the possibilities and limitations in the community for medical care</li> </ul>					
	• To achieve knowledge and skills to treatment and care	o use bio-psych	o-soci	al model for pati	ent	
	• To be aware for ethical and moral	responsibility o	of fami	ly doctor about c	reating	

11.	Content:
	Theoretical part:
	Interactive participation of students with analyses and discussion of cases and
	theoretical lecture of the responsible teacher.
	1. Introduction to FM/GP as a specific medical discipline. Principles of Family
	Medicine: Continuity, comprehensiveness, coordination of care.
	2. Communication skills.
	<ol> <li>Communication skins.</li> <li>Use of evidence based medicine and guidelines for most common presenting</li> </ol>
	symptoms in family medicine.
	4. Management of diseases at early, undifferentiated stage. Dealing with
	uncertainty.
	5. Holistic approach. Bio-psycho-social model.
	6. Management of multiple health problems, identifying priorities.
	7. Prevention and health promotion, patient education.
	8. Decision making based on prevalence and incidence of target.
	9. Consulting skills — stages of a consultation.
	10. Patient-centeredness – complex patient.
	11. Chronic care, management of chronic diseases and health problems
	12. Interface of primary and secondary care: Referrals, gate keeping, advocacy
	13. The family as a source of disease and resource of care.
	14. Community orientation.
	Practical part:
	The practical work will be organized in the Center for family medicine through
	workshops - patient with chest pain, rational prescribing of antibiotics for acute
	respiratory tract infection, patient with hypertension, patient with diabetes mellitus,
	patient with cough and patient with metabolic syndrome.
	During the workshops the student can:
L	
	Collects all important clinical information
	<ul> <li>Is able to integrate collected information</li> </ul>
	<ul> <li>Gives a correct working diagnosis</li> </ul>
	<ul> <li>Orders appropriate diagnostic tests</li> </ul>
	Can choose an appropriate treatment method
	The student can demonstrate following clinical skills:
	Blood pressure measurement
	Calculate and interpret BMI
	L
	Use of glucometar
	• Use of pick flow meter
	Clinical examination of breast

• Taking and interpreting rapid strep test

## Seminar work:

Each student has the task under the supervision of a teacher to prepare a seminar essay on the topic of family medicine with a maximum of 3 pages. Seminar work is submitted in electronic form in the Family Medicine Center by the end of completion of family medicine. Assessed: understanding the problem, explains the findings and give possible solutions of the problem, and use of appropriate literature.

12.	Methods of learning:	
13.	Total	30
14.	Time table	

15.		of educational	15.1	Teaching15 classes
	activit	ies	15.2	Practical work 15 classes (workshops, clinical skills),
16.	Other educat	forms of tional activities.	16.1	Project work – 8 classes seminar essay
			16.2	Home learning
17.	Asses			points
	17.1	Final exam		minmax. Written part 30 points 18-30 Oral part 30 points 20-30
				Written part is consisting of 15 questions (15 questions x 2 points). Oral part is consisting of 3 questions (one question max 10 points).
	17.2	Seminar essay ( w document)	ritten	Seminar essay 5 points 5-12
				Seminar essay is maximum 12 points (3 points for each of criteria: understanding the topic, explain and gives the solutions, adequate use of literature).
	17.3	Active involvement	nt	minmax. Theoretical part 10 points 5-10 Practical part 20 points 12-18
				Theoretical part is maximum 10 points (15 classes x 0,7 points). Practical part is maximum 20 points (6 workshops x 3 points)

18.	Criteria for marks	to 59 points	5 (five) F
	(points/mark)	From 60 to 68 points	6 (six) E
		from 69 to 76 points	7 (seven) D
		From 77 to 84 points	8 (eight) C
		From 85 to 92 points	9 (nine) B
		From 93 to points	10 (ten) A
19.	Prerequisites for taking	Criteria:	
	the final exam	<ul><li>theoretical, practical t gain a minimum score</li><li>After that the student exam.</li><li>The final mark is form based on the sum of p</li></ul>	has to pass the colloquium and oral ned according to the table of marks, joints from all activities, continuous
20	T	checks and final exam	1.
20.	Language	Macedonian	
21.	Methods of following the	•	valuation for subjects, teachers who
	quality of teaching	are involved in teachi	0
		Internal anonymous e practical work	valuation of teaching theoretical and
22.	Literature		

		Obliga	atory						
		No	Author	Title		Publisher		Year	
	22.1	1	Ass.Prof Katarina Stavrikj, Prof.Dr Goran Petrovski, Prof.dr Suzana Nikolovska, Prof.dr Gordana Kiteva Trenceva, Ass.Prof. Biljana Gerasimovska Dr sci Zoran Stojanovski	Fam (on )	ily medicine line available)	Department family medicin	of	2013	
		Option	nal literature						
	22.2	No	Author		Title	Publisher		Year	
	22.2	1	Robert Rachel		tbook of family icine	Tabernakil		2010	
1.	Subjec	t			PHYSICAL EDUCTION, HEALTH AND SPORT				
2.	Code				MEDI3				
3.	Study 1	Program	l		general medicine				
4.	Institut (Unit, 1		, Chair, Department)		Ss Cyril and Me Faculty Skopje	thodius Universit	y, Me	dical	
5.	Degree	Degree of education (first or second cycle)			Integrated cycle				
6.	Study	year/sen	nester		5 years/10 semesters	7.Number of credits	1		
8.	Respo	nsible te	eacher		Prof. Slavica No	vachevska, PhD			
9.	Precon				None				

10.	<ul> <li>Teaching goals:</li> <li>The aim of the physical education, sport and health subject is to adopt new and confirm previous motoric skills and knowledge, and functional capabilities in order to improve general health, satisfy the necessity to be physically active, enabling students to rationally and purposefully use their free time as well as improvement of the quality of living during young age, in maturity and old age. Improvement of the social communication.</li> <li>Expected results</li> <li>Enabling the student to independently engage in sports and physical activeness, knowing the laws of physical culture, and healthy nutrition. Adopting knowledge of the structure, rules and principles of the training process and the singularities of the chosen kinesiological activity.</li> </ul>
11.	Brief content:
	<ul> <li>A. Program – basic regular program</li> <li>basketball, futsal, volleyball, handball, dances and fitness programs (aerobics, step-aerobics, pilates etc.)</li> </ul>
	<ul> <li>B. Program – optional lessons</li> <li>- Mountain hiking and camping, swimming, bike riding, roller glading, ice skating, skiing, ping-pong</li> </ul>
	C. Program for students with special needs
	- physical activities depending on the student's condition/diagnosis
	• D. Optional programs for students from higher years of studies • E. Program –
12	sport competitions
12.	<b>Methods of studying:</b> Method of interactive teaching, demonstration, practice (synthetic, analytical, complex),
	method of sport training.
	method of sport duming.

13.	Total a	available time:		60 classes				
14.	Organization of the course				30- practice Total: 30			
15.	Forms activiti	of teaching ies	15.1.	Theoretic	al course	4 classes		
			15.2.		course (frontal, quential, circular)	22 classes		
16.	5. Other forms of activities		16.1.	÷ ^ ^		4 classes		
			16.2.		· · · · · · · · · · · · · · · · · · ·			
			16.3.					
17.	Method of assessment							
	17.1	17.1 Tests 80						
	17.2	Seminar paper/project (oral/written presentation)	10					
	17.3	Active participation	10					
18.		ng criteria						
	(points	s / grade)						
19.	Requirement for signature and taking the final exam			Minimum 60% regular presence in class as well as active participation in the program				
20.	Langu	age of instruction	М	lacedonian				
21.	Metho	d of monitoring the v of teaching process	М	Method of monitoring, method of assessment etc.				

22.	Textbooks							
		Mandatory						
		1. Necessary literature is						
	22.1.	assigned by the profess						
		depending on the choic	e of					
		kinesiological activity						
	22.2.	Additional	I					
1.	Subject		FORENSIC MEDICINE					
2.	Code			MED-525				
3.	Study Prog	Study Program		General Medicine				
4.	Institution		Ss Cyril and Methodius University, Medical Faculty,					
	(Unit, Inst	itute, Chair, Department)	Department of Forensic Medicine					
5.	Degree	of education	Integrated 6-year study					
	(first or se	cond cycle)			-			
6.	Study year	c/semester	Fifth(V	/)/	7.Number	of	4	
			Teen(2	K)	credits			
8.	Responsib	ole teacher	Prof. V	/erica Poposi	ka, PhD, MD	)		
9.	Preconditi	ons	Filled out condition for enrollment in the VII					VII
			semest	er				

-	
10.	<ul> <li>Teaching goals:</li> <li>adoption and mastering of skills for determination of death, signs of death, cause of death and issuing a certificate of death</li> <li>gaining knowledge of indications for forensic autopsy, and differentiating violent from natural death</li> <li>mastering skills of description of mechanical injuries, chemical injuries, injuries due to heat, injuries due to cold, electrocution, lightening, asphyctic injuries and nutritive injuries</li> <li>mastering skills of filling out and issuing a medical certificate</li> <li>gaining knowledge of criminal law provisions concerning the medical profession (negligent treatment, professional secrecy, euthanasia, failure to provide medical assistance)</li> </ul>
11.	Brief content:
	<ul> <li>Theoretical course:</li> <li>Thanatology. Agony, dying, death, and types of death. Signs of death – uncertain signs, early post-mortem signs, and certain or later post-mortem signs. Estimation of time since death. Determination of death and cause of death.</li> <li>Mechanical injuries, general characteristics. Blunt-force trauma, sharp-force trauma (stab wounds, incised wounds), and gunshot wounds.</li> <li>Asphyctic injuries, mechanism, and general characteristics. Strangulation, suffocation, and compression.</li> <li>Injuries due to heat, injuries due to cold, injuries due to electrocution, injuries due to lightening, injuries due to microwave, laser, and atomic radiation</li> <li>Chemical injuries, poisons. Poisoning with corrosives, poisoning with metals, medicamentous poisoning, poisoning with pesticides, alcohol poisoning, and drugs</li> <li>Nutritive injuries</li> <li>Identification of living, and of deceased. DNA identification.</li> <li>Violent death - murder, suicide, and accident</li> <li>Forensic gynecology, and sexology</li> <li>Medico-legal expertise, and medico-legal expert. Medico-legal expertise of injuries.</li> <li>Medico-legal comment on the provisions of the criminal law for negligence, negligent treatment, failure to provide medical assistance, quackery, professional secrecy</li> </ul>

	Practical lessons:								
	• Medico-legal autopsy. Performing technique of medico-legal autopsy. Goals and								
		indications for medico-legal autopsy.							
	Medical certificate								
	Examination of vic	01110 01 00							
	Identification of liv								
	<ul> <li>Determination of death and issuing of certificate of death</li> </ul>								
			tise of blood stains, fiber a	and hair, sperm					
	Forensic DNA tech	•••							
	Seminar papers: Stud	ents thems	selves choose matter in the	e field of forensic medicine					
12.	Methods of studying:								
	Interactive teaching, practical course and seminar papers								
13.	Total available time:		120 classes						
14.	Organization of the course		75 hours lectures-theoretical course, practical						
			course, and seminars 45 hours home studying						
15.	Forms of teaching	15.1.	Theoretical course	49 classes					
	activities								
		15.2.	Practical course,	25 classes					
			Seminars	1 class					
16.	Other forms of activities	16.1.	Practice	/					
		16.2.	Individual tasks	/					

			16.3.	Individual (home	) learning	45 classes		
17.	Metho	d of assessment		· · · · · · · · · · · · · · · · · · ·				
	17.1	Tests		riodic evaluation * Periodic evaluation		max. 20 y exam): one written exam		
		Final exam	Oral exa min. 32	nm* – max. 52				
			Practica min. 11	l exam* – max. 20				
			integrat		ortant for un	questions to evaluate the iderstanding the entirety of		
			* Practical exam (according to the skills ) $-2$ questions from the practical course and skills of writing Latin diagnosis					
	17.2	Seminar paper/project (oral/written presentation)	1 - 2			min – max		
	17.3	Active participation	Practica	ical course l course ted textbook		min – max 1-3 3-5 mandatory		
18.	Gradir	ng criteria	compre	up to 59 points		5 (five) F		
-0.		s / grade)	fre	om 60 to 68 points		6 (six) E		
	<u>`</u>	U /		om 69 to 76 points		7 (seven) D		
				om 77 to 84 points		8 (eight) C		
				om 85 to 92 points		9 (nine) B		
				n 93 to 100 points		10 (ten) A		
19.	-	ement for signature king the final exam	The student is required to actively follow all of the planned activities.Conditional criteria for assessment of knowledge:					
				To get a signature, the student should attend theoretical classes, practical course and seminars and gain a minimum score.				

20. 21.	00	of instruction monitoring the	predicte number session, then app The fina based or checks, English	r to access the final exam so d continuous check or to win a of points on the preliminar the student should first pass the proach the final exam. Il grade is formed according to a the sum of points from all act preliminary exam and final exam	at least 30% of the ry exam. In the re preliminary exact the table of grade ivities, continuous	e total exam im and s s			
21.		eaching process		Attendance of students to classes and interactive participation in theoretical and practical lessons.					
22.	Textbooks								
	22.1.	Mandatory       1.     Praktikum medicina       2.     Forensic F	po sudska Pathology	Janeska and associates Dominick DiMaio, Vincent J.M. DiMaio, M.D.	MARIS, Skopje CRC Press LLC	2010 2001			

		Ado	ditional				T		
		1. Sudska medicina		Tasić and assoc	Tasić and associates		vi 2	2006	
	22.2.	2.	Sudska medicina	Zećević and as	ssociates	Medicins naklada, Zagreb	ka 2	2004	
		3.	Sudska medicina	Milovanovic		Medicinsk knjiga	ka 1	.99(	
1.	Subject			URGENT M	EDICINE				
2.	Code			MED-514					
3.	Study Pro	ogran	n	General Medi	icine				
4.	Organizir	ng Ins	stitution ( Unit,	UKIM-Facult	y of Medic	ine			
	Institute,	Chai	r, Department)	Department of	of general s	urgery			
5.	Education second cy		degree (first o	or Integrated cyc	cle				
6.	Study yea	ır /sei	mester	Fifth (V) Year, Ninth (IX) semester	Nu: cre	mber of dits	1		
8.	Responsil	ble te	acher	Dzonov Prof. d-r Sas Article I. *C teachers from Surgery, Gynecology,	<b>Prof. d-r Sasko Jovev</b> Article I. *Classes are perform from all the teachers from department of Interal medicine,				
9.	Precondit	Preconditions:			Filled condition for VII semester, passed first part of professional examination				
10.	U	0	s of the study progradents to learn the basi	· •		itions in med	icine		
	•		earn the principles of c ssary therapis procedu	0			the skills	in	

• to know how to apply algorithms for reanimation issued by AHA (American Heart Association) and ERC (European Resuscitation Council).

	Contents of the study	of the study program:						
	Theoretical courses :	(13 <b>cl</b> a	nsses)					
	Urgent conditions in Cardiology							
	<ul> <li>Urgent conditions in Pulmonology</li> </ul>							
	Urgent condition							
	Urgent condition	ns in Toxico	ology					
	Urgent condition	ns in Nephr	ology					
	Urgent condition		rics					
	Urgent surgery c							
	Urgent gynecolo							
	Urgent condition		almology,					
	Urgent condition							
	<ul><li>Urgent condition</li><li>Urgent condition</li></ul>							
			lovenerology					
	Seminar (4 classes • Cardiology (2							
	Variationogy (2     Nephrology (1)							
	Surgery (1 hou							
	surgery (1 not	115)						
	Practical course (12	hours						
		-		different departments of				
	-			different departmants of				
			ip od mentor professor.	ring and treatment on				
	intensive treatment.	to particip	ate in all activities of ca	ring and treatment on				
	intensive treatment.							
12.	• •	Interacti	ive lectures, tutorials a	nd seminars				
12. 13.	Methods of studying: Total no. of hours:	Interacti	ive lectures, tutorials a	nd seminars				
	• •			nd seminars				
13.	Total no. of hours:			nd seminars				
13. 14.	Total no. of hours: Distribution of the av	vailable tir	ne	1				
13. 14.	Total no. of hours:Distribution of the avType of educational	vailable tir	ne Lectures-theoretical course	13 classes				
13. 14.	Total no. of hours:Distribution of the avType of educational	v <b>ailable tir</b> 15.1	ne Lectures-theoretical course Practicals (laboratory,	13 classes Practical: 12 hours				
13. 14.	Total no. of hours:Distribution of the avType of educational	v <b>ailable tir</b> 15.1	ne Lectures-theoretical course Practicals (laboratory, clinical),	13 classes				
13. 14.	Total no. of hours:Distribution of the avType of educational	v <b>ailable tir</b> 15.1	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team	13 classes Practical: 12 hours				
13.         14.         15.	Total no. of hours: Distribution of the av Type of educational activity	vailable tir 15.1 15.2	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work	13 classes Practical: 12 hours Seminars 4 classes				
13. 14.	Total no. of hours:Distribution of the avType of educationalactivityOther types of	vailable tir 15.1 15.2 16.1	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments	13 classes Practical: 12 hours Seminars 4 classes hours				
13. 14. 15.	Total no. of hours: Distribution of the av Type of educational activity	vailable tir 15.1 15.2 16.1 16.2	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks	13 classes Practical: 12 hours Seminars 4 classes				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activities	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments	13 classes Practical: 12 hours Seminars 4 classes hours				
13. 14. 15.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks	13 classes Practical: 12 hours Seminars 4 classes hours				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks	13 classes         Practical:       12 hours         Seminars       4 classes         hours				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying	13 classes Practical: 12 hours Seminars 4 classes hours hours minмах.				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks	13 classes         Practical:       12 hours         Seminars       4 classes         hours				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests	13 classes Practical: 12 hours Seminars 4 classes hours hours minмах. points 25 - 45				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests periodic evaluatio	13 classes Practical: 12 hours Seminars 4 classes hours hours minмах. points 25 - 45				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests periodic evaluatio written test	13 classes Practical: 12 hours Seminars 4 classes hours hours hours points 25 - 45 n of knowledge:				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests periodic evaluatio written test Theoretical basics of	13 classes Practical: 12 hours Seminars 4 classes hours hours minмах. points 25 - 45				
13.         14.         15.         16.	Total no. of hours:         Distribution of the average         Type of educational activity         Other types of activities         Assessment of knowled points         17.1         Tests	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests periodic evaluatio written test	13 classes Practical: 12 hours Seminars 4 classes hours hours hours points 25 - 45 n of knowledge:				
13.         14.         15.         16.	Total no. of hours:Distribution of the averageType of educational activityOther types of activitiesAssessment of knowled points	vailable tir           15.1           15.2           16.1           16.2           16.3	ne Lectures-theoretical course Practicals (laboratory, clinical), seminars, team work Project assignments Individual tasks Home studying Continuous tests periodic evaluatio written test Theoretical basics of	13 classes Practical: 12 hours Seminars 4 classes hours hours hours minмах. points 25 - 45 n of knowledge:				

	17.2	Seminar work/pro (presentation: writ oral) Active participatio	ten and	<ul> <li>** practical exam (accorskills): examination of diagnosis, therapy</li> <li>The practical part of the eximination of diagnosis, therapy</li> <li>The practical part of the eximination of the envisement of the envisement</li></ul>	of a patient, definition, exam will be performed in the Surgical clinics ine clinics. o win a minimum of each part of the exam, oints for the final is considered not min max. 5 - 10 10 - 15 l course
				of 4 hours, 3 groups o For Attendance: 2 pc	oints
10	V.			Engage in practices: 3 po	
18.	Know criteri	ledge assessment	-	to 59 points	$\frac{5 \text{ (five) } F}{6 \text{ (siv) } F}$
		a. ts/grade)		to 68 points	6 (six) E
	(pom	is/grade)		to 76 points	$\frac{7 \text{ (seven) } D}{2 \text{ (sight) } C}$
		-		to 84 points	8  (eight)  C
		F		to 92 points	$\frac{9 \text{ (nine) } B}{10 \text{ (tor) } A}$
19.	Critar	ia for obtaining a		to 100 points <b>onal criteria for assessme</b>	10 (ten) A
17.		ure and taking the	To get a theoretic	a signature the student is reacted in signature the student is reacted, practical training and s m scores	quired to attend the
			planned order to the requ exam in	student is obliged to gain a activities, including the co access the final exam. If the ired minimum score, they one of the three exam sess accessment of the subject i	ntinued examination in ne student did not win can access on the final bions
			the table	assessment of the subject i e of estimates, based on the s, continuous inspections a	e sum of points from all
20.	Langu	age of the course	English		
21.		od for evaluation of	-	nous student's evaluation o	f the subject, teachers
	-	ality of education	-	aborators involved in the e	
22.		ture			

	22.1	Manda	tory textbooks						
	22.1	Р.бр	Автор		Наслов	6	Издавач	ł	Година
	- 1	I							1
		1	Jeffrey Schaider Stephen R. Hayden Richard Wolfe Roger M. Barkin Peter Rosen	5 en	sen and t nergency edicine cor	minute		-	2011
		2	Members of the departments involved in teaching	A	uthorized le	ectures	3		
1.	Subject			SOCIAL ECONON		IEDICINE A	ND H	IEALTH	
2.	Code				MED-527				
3.	Study	Progra	m		General medicine				
4.		0	nstitution ( Unit, hir, Department)		UKIM-Faculty of Medicine Cathedra of Social Medicine				
5.	Educa cycle)	ational o	degree (first or sec	ond	I Integrated cycle				
6.	Study	year /se	emester		Fifth/ X	7	. Number o credits	f	2
8.	Responsible teacher			Head of Cathedra: Prof. Dr. Fimka Tozija Responsible teacher: Prof. Dr. Mome Spasovski *Teaching is conducted by all the teachers of the Cathedra of Social Medicine					
9.	Prerequisites for enrolling the course:			Passed exams: Introduction to Medicine and Health Promotion					
10.	Teaching goals of the study program (competencies):         Introduction to the basic principles of Social Medicine         Organization and evaluation of the health systems         Health Management         Health Economics         Quality of Health Care         Prevention and health care of vulnerable groups of the population								

11.	Content	s of the study program:
	Theoret	ical course::
	•	Social Medicine as a science, definition, social medical method, concepts, goals, areas of activity, study subject of social medicine
	•	Basic principles of organization of the health care and health service
	•	Levels of health care
	•	Health System - organization and evaluation
	•	Health organizations and organization of health care system of the Republic of Macedonia
	•	Family - importance for health, health needs and health care
	•	Health and social protection of vulnerable groups (children, school children and youth, women, elderly, workers, people with disabilities)
	•	Social diseases
	•	Social medical aspects of chronic diseases (cardiovascular diseases, malignant neoplasms, injuries and violence, drug addictions, diabetes mellitus)
	•	Social medical aspects of infectious diseases (tuberculosis, STDs, HIV $\!/$

	AIDS) <ul> <li>Health Econom</li> <li>Financing of he</li> <li>System of health</li> <li>Health manager</li> <li>Planning of the</li> <li>Accreditation of</li> <li>Globalization an</li> <li>Evaluation of he</li> <li>Informatics, state</li> </ul>	alth car h insura nent develop f health nd healt ealth an	nce and f oment of h facilities h d health s	health care	alth care in Macedonia
	Medical docum	entation	and evid	ence. Basic me	dical documentation, daily
					gated reports. Legislation,
		-			ure and practical application
	Social medical	liagnos	tics. Healt	th indicators fo	r monitoring and studying the
	health of the po	pulatior	1.		
					he community and for certain
		-	-	. Health statisti	ical research. Monitoring and
	assessment of h	ealth ris	sks		
			•		
12.	Methods of studying: Le	ectures,	exercises,	seminars, field	d practical course
13.	Total no. of hours:			60 hours	
14.	Distribution of the avail	able tin	ne	30 hours lectu 30 hours of he	ures, exercises ome studying
15.	Type of educational	15.1	Lectures	s-theoretical	20 hours
	activity		course		
		15.2		l exercises,	10 hours
			seminars work, fi		
			work, I		
16.	Other types of	16.1	Project a	assignments	hours
	activities	16.2	Individual tasks		hours

			16.3	Home studying	30 hours
17.	17. Assessment of knowledge points		ge:		
	17.1	Tests		the course of theoretica the subject Social Med	n test It all areas of the content of al and practical training on
		Final exam		1 0	minmax. Points 30 – 50 e) - 3 questions of integrative nportant for understanding the al-medical activity

			· U	-	ts; 9 = 43-46 points; 8 = ints; 6 = 30-34 points)
	17.2	Seminar work/pro (presentation: wri			minmax.
		and oral)	Seminar points	works	6 – 10
	17.3	Active participation	-		minmax.
	17.5			cal course	points 3 - 5
			Practical		points 3 - 5
			* Presen	ce at the theoretica	ıl course
				= 3 points	
				6 = 4 points	
				% = 5 points	
					ks exercises of 3 hours)
				= 3 points	
			3 blocks	= 5 points	
18.		ledge assessment	up to 59	points	5 (five) F
	criteri		60 to 68	points	6 (six) E
	(poin	ts/grade)	69 to 76	points	7 (seven) D
			77 to 84	points	8 (eight) C
			85 to 92	points	9 (nine) B
			93 to 100	points	10 (ten) A

19.	Criteria for obtaining a signature and taking the final exam			Conditional criteria for assessment of knowledge: To get signature the student is required to attend the theoretical, practical course and seminars and to achieve minimum points To access to the final exam the student should pass the predicted continuous check and to achieve at least 60% of the total number of points predicted for the continuous check, whereby in the exam session first takes the unpassed continuous checks, and then access to the final exam. The grade of the subject is formed in accordance with the table of grades, based on the sum of points from all activities, continuous checks and final exam.				
20.	Langu	age of	the course	English				
21.	0	0	valuation of	Anonymous student's evaluation of the subject, teachers				
	the qu	ality of	education	and collaborators involved in the educational activities				
22.	Litera	ture						
		Mand	atory textboo	ks				
			Autho	r	Title	Publisher	Year	
		1	Maxi-		Public Health and	Tabernakul	2011	
			RozenoLast	,	Preventive			
			Robert W.		Medicine			
	22.1		Wallace and	1				
			others.					
		2	D.Donev	•	Social Medicine	Faculty of	E 2013	
		M.Spasovski		<b>K1</b>		Medicine		
			F.Tozija			in print		
		A 11'	E.Kjosevska					
	22.2	Addit	ional literatur		TT' ( 1	D-11'1	V	
		I	Autho	r	Title	Publisher	Year	

	1 Detels R., Beaglehole R., Lansang MA., Gulliford M.	Oxford Textbook of public health (5th edition)	Oxford University Press	2009	
1.	Subject	PSYCHIATRY			
2.	Code	MED-521			
3.	Study Program	General medicine	9		
4.	Organizing Institution ( Unit, Institute, Chair, Department)	University Clinic Belgradska b.b.	Department of Psychiatry and Medical		
5.	Educational degree (first or second cycle)	nd Integrated cycle			
6.	Study year /semester	fifth/tenth 7.	Number of credits		
8.	Responsible teacher	Head of the Department prof. dr. Marija Raleva The teaching is performed by the professors a the Department of Psychiatry and Medical Psychology			
9.	Preconditions:	Fulfilled precond	litions for VII semes	ter.	

10	
10.	Teaching goals of the study program (competencies):
	<ul> <li>Preparation of students to work with psychiatric patients</li> </ul>
	<ul> <li>Diagnosis and treatment of psychiatric patients</li> </ul>
	Adoption of theoretical and practical knowledge in psychiatry (contact and
	communication with psychiatric patients, interviewing patients, differential diagnosis,
	treatment planning)
11.	Contents of the study program:
	Theoretical course:
	<ul> <li>General psychopathology (disorders of psychological functions of consciousness, sensations and perceptions, emotions and affects, attention, thought process,</li> </ul>
	delusions/illusions/hallucination, memory function, will and drives, cognitive functioning);
	• Developmental stages and developmental disorders (speech and language disorders, learning
	disorders, pervasive disorders, mixed developmental disorders, attention deficit
	Hyperactivity Disorder)
	Intellectual disability
	<ul> <li>Personality disorders</li> <li>Anxiety disorders and stress disorders (Generalized anxiety disorder, Dissociative disorder,</li> </ul>
	<ul> <li>Anxiety disorders and stress disorders (Generalized anxiety disorder, Dissociative disorder, Somatoform disorder, Phobic disorder, Obsessive – compulsive disorder, Posttraumatic stress disorder)</li> </ul>
	<ul> <li>Psychosis (Schizophrenia spectrum, clinical presentation, differential diagnosis and treatment);</li> </ul>
	<ul> <li>Affective spectrum (Recurrent depressive disorder, Bipolar disorder – clinical presentation, differential diagnosis and treatment)</li> </ul>
	Persistent delusional disorders
	Organic brain syndromes (acute brain disorders, chronic brain disorders)
	Eating disorders
	• Substance abuse disorders and comorbidity ( alcohol abuse, illegal drug abuse)
	Treatment approach in psychiatry
	<ul> <li>psychotherapy, psychotherapeutic approaches and techniques,</li> </ul>
	- psycho-pharmacotherapy <b>Practical course:</b>
	<b>Communication with psychiatric patients (taking medical history, psychiatric status, Identification of the leading symptoms, Psychological evaluation , Differential diagnosing, Treatment approaches in:</b>
	Disorders in childhood and adolescence
	Anxiety diorders
	Psychotic diorders
	<ul> <li>Disorders in involutive period</li> </ul>
	· Disorders in involutive period

	<ul> <li>Diagnostic methods in psychiatry (Psychological exploration, Neuro-immiging techniques, EEG)</li> <li>Treatment approaches in psychiatry (psychotherapy and pharmacotherapy)</li> </ul>						
12.	Methods of studying: In	nteractiv	e lectures	, seminars, exe	rcises		
13.	Total no. of hours:			90 hours			
14.	Distribution of the avai	lable tir	ne				
15.	Type of educational activity	15.1 15.2	Lectures-theoretical course Practicals (laboratory, clinical), seminars, team		40 hours 50 hours		
16.	Other types of	16.1	work Project	assignments	hours		
	activities	16.2	Individu	U	hours		
		16.3	Home st	tudying	hours		
17.	Assessment of knowled points	ge:					

	17.1	Tests		3 Continuous te • Test 1 •	minmax. total points 16 – 30 points
		Final exam		Subject: Practical exam Oral exam	minmax. 12-20 points 22-40 points
	17.2	Seminar work/pro (presentation: wri and oral)		Seminar works	minmax. points
	17.3	Active participation	on	Theoretical cou Practical course	1
18.	Know	ledge assessment		up to 59 points	5 (five) F
	criteri	a:		60 to 68 points	6 (six) E
	(poin	ts/grade)		69 to 76 points	7 (seven) D
				77 to 84 points	8 (eight) C
				85 to 92 points	9 (nine) B
				93 to 100 points	10 (ten) A
19.	Criter	ia for obtaining a	Con	ditional criteria	for assessment of knowledge:
	-	ure and taking the	For o	obtaining a signat	ture the student is required to attend
	final e	exam		-	actical lectures and to acquire
				mum points.	
				-	sam the student has to pass the test $51\%$ of the total number of
				-	um 51% of the total number of After passing the test the student
					ctical exam. The grade is a sum of
				-	om the activities and parts of the
			-	n according to the	-
20.	Langu	age of the course	Engl	5	-
21.		od for evaluation of	-		evaluation of the subject, teachers
	the qu	ality of education	and	collaborators invo	olved in the educational activities
22.	Litera	ture			
	22.1	Mandatory textbo	oks		

			Author	Title	Publisher	Year	
		1	Chadlovski G. and	Psychiatry, part I	Prosvetno	2004	
			al.	and part II	delo,		
					Skopje		
		2	Chadlovski G,	Medical psychology	Prosvetno	2004	
			Filipovska A. and		delo,		
			Belevska D.		Skopje		
		Additi					
			Author	Title	Publisher	Year	
	22.2	1	Sadock B., Sadock	Comprehensive	Tabernakul,	2012	
	22.2		V.	textbook of	Skopje		
				psychiatry, Kaplan			
				and Sadock			
1.	Subje	ct		HYGIENE			
2.	Code			MED 225	MED 225		

3.	Study Program General medicine							
4.	Organizing Institution ( Unit,	UKIM-Faculty of Medicine Cathedra						
	Institute, Chair, Department)	of Hygiene						
5.	Educational degree (first or second	Integrated cycle						
	cycle)							
6.	Study year/semester	Second/Fourth 7. Number of 5						
		credits						
8.	Responsible teacherDragan Gjorgjev, MD, PhD							
9.	Preconditions:	None						
10.	Teaching goals of the study program (competencies):							
		• Environmental health, health risk assessment from air pollution, drinking water and						
	surface water pollution, environmental health aspects of school environment							
	Food safety and principles of pro	per nutrition of the population						
11.	Contents of the study program:							
	Theoretical course:							
		environmental health)						
	<ul> <li>-Hygiene (parts and objectives of the environmental health)</li> <li>Ecological concept of health, dose-response reaction, changes in the organism -</li> </ul>							
	- Ecological concept of health, dose-response reaction, changes in the organism - Some aspects of eco-toxicology, risk assessment and eco-oncology							
	- Environmental health							
	<ul> <li>Environmental health</li> <li>Factors of the environment – impact to health: physical, climate, radiation,</li> </ul>							
	noise - Hygiene of air							
	<ul> <li>Environmental health aspects of drinking water and water supply</li> <li>Environmental health aspects of surface and waste waters</li> </ul>							
	<ul> <li>Environmental health aspects of surface and waste waters</li> <li>Environmental health aspects of the soil and waste, with particular emphases</li> </ul>							
	on medical waste							
	<ul> <li>Hygiene of settlements and housing</li> <li>Environmental health aspects of school environment</li> </ul>							
	- Characteristics of the school ch	nildren morbidity						
	- Environmental health aspects health care institutions							
	- Hygiene of food safety and nut	trition of population - The basics of detotherapy						
	Practical course:							
		ethods of monitoring of air pollution and health						
	Environmental health: air pollution, methods of monitoring of air pollution and healt statistics methods of monitoring of negative health effects; drinking water and monitoring of drinking water safety; ionizing radiation and health risk assessment; noise in environment, monitoring methodology and health risk assessment Hygien							
	in state of emergency: rapid detection							
	in state of emergency. Tuple detection							

	<ul> <li>different environment media</li> <li>School hygiene: implementation and interpretation of questionnaire for hygiene in school environment</li> <li>Hygiene of food safety and nutrition: methods of assessment of food safety, nutritive value of meals, methods of assessments of nutritional status and dietotherapy</li> </ul>							
12.	Methods of studying: Lecturing, exercises/seminars							
13.	Total no. of hours:			150 hours				
14.	Distribution of the available time			75 hours of lecturing, exercises and seminars				
				75 hours of home learning				
15.	Type of educational1Lectures-the		oretical course	30 hours				
	activity	5						
		1						
16.	Other activi	r types of ties	6 1 1 Individu	s, team	tory, 45 hou ho	ours		
-----	-----------------	--	-------------------------------	--	--------------------	---		
			6 2 1 Home st 6 3	udying	75 ho	urs		
17.	Asses	sment of knowledg	-					
	points	-						
	17.1	Tests	• En	uous tests vironmental h od Safety and		minmax. total points 21 35 15 25		
		Final exam	Subject:	Oral integrativ	ve exam			
			exam			minmax. Oral 15 25 points		
	17.2	Seminar work/project (presentation: written and oral)	Seminar	works		minmax. points		
	17.3	Active participation				minmax.		
				cal course		points 1-5		
10	Know	ledge assessment	Practical			points 9-15		
18.	criteri		-	o 59 points		5 (five) F 6 (six) E		
		ts/grade)		o 76 points		7 (seven) D		
	_			> 84 points		8 (eight) C		
				92 points		9 (nine) B		
				100 points		10 (ten) A		

19.		ure and	taking the	<b>Conditional criteria for assessm</b> student must participate at the the courses in order to score minimur signature. The minimum requirem follows:	oretical and pra n points to obtain	ctical in		
				Theoretical course: 100% presence - 5 points 80% presence - 4 points 60% presence - 3 points 50% presence - 2 points 40% presence - 1 points				
				Practical course : Presence at 11 exercise - 15 points Presence at 10 exercise - 13 points Presence at 9 exercise - 11 points Presence at 8 exercises or less – the student will be reevaluated for some of the exercises he/she missed. If positively reevaluated - the student will gain 9 points.				
				For the student to approach to the should score min. 60% from conti assessment. The final mark is formed as a sum activities (presence at theoretical continuous assessments and final	nuous knowled of scores of all and practical co	ge		
20.	Langu	age of	the course	English				
21.	Method for evaluation of			Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	the qu Litera	•	education	and collaborators involved in the	educational acti	vities		
<i>∠</i> ∠.	Litera		atory textbooks	5				
			Author	Title	Publisher	Year		
		1	Wallace RB.	Public Health and Preventive Medicine	New York: McGraw- Hill	2008		
	22.1	2	Gjorgjev D, Kochubovs ki M, Kendrovski V, Ristovska G.	Hygiene and environmental health	Skopje: Faculty of Medicine	2008		
		3	Gjorgjev D, Kendrovski V, Ristovska G, Dimitrovska Z.	Hygiene of food safety and nutrition	Skopje: Faculty of Medicine	2008		
		4	Jackel JF.	Jekel's Epidemiology, Biostatistics, Preventive Medicine, Public Health, 3rd edition	Skopje: Tabernaku 1	2010		
				Californ				
	22.2	Addit	ional literature Author	Title	Publisher	Year		

		1 Tulchinski T.	The new	public health	Skopje: Studer zbor;	ntski 2003	
		2 Gjorgjev I Kendrovski V Tozija F.	Kragelj L J, editors Public He teachers,	ental Health Risk Lage:Hans Jacobs Jacobs Jacobs Publishing Company http:/www.s nz.hr/phsee/public ons.htm		2010 Iblicati	
1.	Subject			SURGERY			
2.	Code			MED 421			
3.	Study Pro	0		General Medicin			
4.	Institution				hodius University, N	Medical Facu	
~		titute, Chair, Depa	artment)	Department of A			
5.	Degree of education Integrated 6-year study						
6.	(first or second cycle) Study year/semester			Fourth (IV) and Fifth (V) / Eight (VII) and ninth (IX)	7.Number of credits	20	
8.	Responsi	ble teacher			ment of Surgery Do	c. d-	
	<b>D</b>			r Boro Dzonov			
9. 10.	Preconditions       Filled condition for VII semester         Teaching goals:       • to learn and master skills within rational diagnostics and contemporary treatment of surg diseases						
	<ul> <li>treatment within the general surgery</li> <li>enable student to raconalo estimates and indicates acute surgical diseases, witch if timelu treatment is not diagnosed and treated may end fatally</li> <li>to enable the student to evaluate and treat surgival diseases of the central nervous system neck and chest organs, cardiac and vascular diseases, digestive diseases, urological diseases, children's surgical disease, plastic and reconstructive corrections, locomotor system injuries and internal organs</li> </ul>						
11.	Brief content:						
	Theoretical course:						
	<ul> <li>General and military surgery</li> <li>Disease and surgical treatment of the central nervous system</li> <li>Disease and surgical treatment of lung disorder</li> <li>Disease and surgical treatment of the disorder of cardiac and vascular diseases</li> <li>Disease and surgical treatment of the disorder of the digestive system</li> <li>Disease and surgical treatment of the disorder of the urogenital system</li> </ul>						
	• D • D	visease and surgic	cal treatmen cal treatmen	nt of violations of c nt of the disorder o	•		
			••	nt of injuries locom	otory system		
	Practical	classes:					
	Mastering	clinical skills and	d practical ap	pplication of the gai	ned theoretical know	wledge	
12.	Methods	of studying: Inter	ractive lectur	res, tutorials and set	minars		

15.     Forms of teaching activities       15.     Forms of teaching activities       15.     Practical course,       15.2.     Practical course,	13.	Total available time:			600 classes		
15.       Forms of teaching activities       15.1.       Theoretical course, Seminars       Practical: 180 classes         16.       Other forms of activities       16.1.       Practical course, Seminars: 52 class         16.       Other forms of activities       16.1.       Practice       classes         16.       Other forms of activities       16.1.       Practice       classes         17.       Method of assessment       Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology       2. Thoracic vascular and cardiac surgery         3.       Digestive surgery       4. Neurosurgery       5. Urology         6.       Children and Plastic and Reconstructive Surgery       The students from one test can get: 2-4 points total for six tests: 12-24 points         7.       Practical part (according to the catalog od skills): examination of the patien diagnosis, therapy         8.       10.       Practical part (integrative) - 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice         17.       Prestudent is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed.         * attendance theoretical teaching       51% - 60% - 2 points <t< td=""><th>14.</th><td>Organization of the course</td><td></td><td></td><td></td><td colspan="2" rowspan="2">nars</td></t<>	14.	Organization of the course				nars	
activities       15.2.       Practical course, Seminars       Practical: 180 class         16.       Other forms of activities       16.1.       Practical course, Seminars       Practical: 180 classes         17.       Method of assessment       Continuous checking (test): 6 written test Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology 2. Thoracic vascular and cardiac surgery 3. Digestive surgery 4. Neurosurgery 5. Urology 6. Children and Plastic and Reconstructive Surgery 7. Urology 7. Children and Plastic and Reconstructive Surgery 7. The students from one test can get: 2-4 points total for six tests: 12-24 points 7. Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and th medical practice         16.       Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and th medical practice         17.       • The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed.         *attendance theoretical teaching       51% - 60% - 2 points 61% - 70% - 4 points 71% - 85% - 6 points 86% - 100% - 8 points         81% - 60% - 2 points 61% - 70% - 4 points 71% - 85% - 6 points 86% - 100% - 8 points         *Assessment of the complete exam is gained based on the sum of the scores obtained from a the activities (lectures, tutorials, seminars, colloquia, final exam) <th></th> <td></td> <td></td> <td></td> <td>265 classes - home in</td>					265 classes - home in		
Interpretation         Seminars         Seminars: 52 class           16.         Other forms of activities         16.1.         Practice         classes           17.         Method of assessment         Continuous checking (test): 6 written test         classes         classes           17.         Method of assessment         Continuous checking (test): 6 written test         classes         classes           17.         Method of assessment         Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology         2. Thoracic vascular and cardiac surgery           3.         Digestive surgery         4. Neurosurgery         5. Urology           6.         Children and Plastic and Reconstructive Surgery         The students from one test can get: 2-4 points           10.         Practical part (according to the catalog od skills): examination of the patient diagnosis, therapy         8-12 points           2.         Oral part (integrative) - 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice         24-40 points           (for 10=40 points; for 9 = 37-39 points; for 8=34-36 points; for 7=31-33 points; for 6=28 points)         • The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passe	15.		15.1.	Theoretic	cal course	103 classes	
16.       Other forms of activities       16.1.       Practice       classes         16.2.       Individual tasks       classes         17.       Method of assessment       Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology         2.       Thoracic vascular and cardiac surgery         3.       Digestive surgery         4.       Neurosurgery         5.       Urology         6.       Children and Plastic and Reconstructive Surgery         7.       The students from one test can get: 2-4 points total for six tests: 12-24 points         10.       Practical part (according to the catalog od skills): examination of the patien diagnosis, therapy         2.       Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice         24-40 points         4-40 points; for 9 = 37-39 points; for 8=34-36 points; for 7=31-33 points; for 6=28 points)         • The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed.         * Attendance theoretical teaching         51% - 60% - 2 points       61% - 70% - 4 points         71% - 85% -			15.2.	Seminars	3	Practical: 180 classes Seminars: 52 classes	
Id.2.         Individual tasks         classes           16.3.         Individual (home) learning         265 classes           17.         Method of assessment Continuous checking (test): 6 written test Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology           2. Thoracic vascular and cardiae surgery         3. Digestive surgery           3. Digestive surgery         4. Neurosurgery           5. Urology         6. Children and Plastic and Reconstructive Surgery           7.         The students from one test can get: 2-4 points total for six tests: 12-24 points           8.         Final exam: practical + oral           1.         Practical part (according to the catalog od skills): examination of the patien diagnosis, therapy           2.         Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice           2.         Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice           9.         The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed.           *attendance theoretical teaching         51% - 60% - 2 points 61% - 70% - 4 points	16.	Other forms of activities	16.1.		6	classes	
16.3.       Individual (home) learning       265 classes         17.       Method of assessment       Continuous checking (test): 6 written test         Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology         2.       Thoracic vascular and cardiac surgery         3.       Digestive surgery         4.       Neurosurgery         5.       Urology         6.       Children and Plastic and Reconstructive Surgery         7.       The students from one test can get: 2-4 points total for six tests: 12-24 points         8.       Final exam: practical + oral         1.       Practical part (according to the catalog od skills): examination of the patien diagnosis, therapy         8.       1.         9.       Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and the medical practice         (for 10=40 points; for 9 = 37-39 points; for 8=34-36 points; for 7=31-33 points; for 6=28 points)         • The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed.         *Attendance theoretical teaching         51% - 60% - 2 points       61% - 70% - 4 points					al tasks		
<ul> <li>17. Method of assessment Continuous checking (test): 6 written test Covers all areas of surgery in various combinations, depending on the group in which the student listens in the current schedule: 1. General Surgery and Traumatology 2. Thoracic vascular and cardiac surgery 3. Digestive surgery 4. Neurosurgery 5. Urology 6. Children and Plastic and Reconstructive Surgery 7. The students from one test can get: 2-4 points total for six tests: 12-24 points Final exam: practical + oral 1. Practical part (according to the catalog od skills): examination of the patien diagnosis, therapy 2. Oral part (integrative) – 4 questions that are not questioned in details, but integrative knowledge is important for understanding the entity of the case and th medical practice 24-40 points (for 10=40 points; for 9 = 37-39 points; for 8=34-36 points; for 7=31-33 points; for 6=28 points) • The student is obligated to win a minimum of the envisaged points for each part of the exam, to be able to registered points for the final exam. Otherwise, the test is considered not passed. *attendance theoretical teaching 51% - 60% - 2 points 61% - 70% - 4 points 71% - 85% - 6 points 86% - 100% - 8 points *Assessment of the complete exam is gained based on the sum of the scores obtained from a the activities (lectures, tutorials, seminars, colloquia, final exam) Complete final exam: The exam represents a combination of colloquia that are not passed and the final exam. The student is obligating of a point of colloquia that are not passed and the final exam. The student is obliged first to pass colloquiums witch during the year has not passed, and then proceed to take the final exam. If a student does not pass all colloquia, has not right to acces </li> </ul>							
	17.	Continuous checking (test Covers all areas of surgery is the student listens in the cur 2. Thoracic vascular and car 3. Digestive surgery 4. Neurosurgery 5. Urology 6. Children and Plastic and The students from one test of total for s Final exam: practical + ora 1. Practical part diagnosis, therapy 2. Oral part (i integrative know medical practice (for 10=40 points; for 9 = 1 points) • The student is obligat the exam, to be abl considered not pass *attendance theoretical test 51% - 60% - 2 points 61% - 70% - 4 points 71% - 85% - 6 points 86% - 100% - 8 points *Assessment of the complet the activities (lectures, tutor Complete final exam: The exam represents a comf student is obliged first to pa proceed to take the final exam	): 6 written in various rrent sched rdiac surge Reconstru can get: 2 six tests: 12 art (accord ntegrative) /ledge is in 37-39 poin ted to win le to regist sed. <b>aching</b> roup exerce te exam is rials, semin bination of uss colloqu	n test combination hule: 1. Genery ctive Surge 4 points 2-24 points ing to the of ) – 4 questing nportant for hts; for 8= a minimum ered points cises with a gained base nars, colloon f colloquia iums witch	end on the sum of the scalar a duration of 4 hours) sed on the sum of the scalar that are not passed and a during the year has not	ination of the patient, <b>8-12 points</b> oned in details, but ity of the case and the <b>24-40 points</b> -33 points; for 6=28-30 nts for each part of therwise, the test is eores obtained from all the final exam. The t passed, and then	
		proceed to take the final exa	-			-	

18.Grading criteriaup to 59 points5	5 (five) F

(points / grade)	from 60 to 68 points		6
		(six) E	

	Teaching goals:     Introducing with diagnostic and therapeutic procedures in the field of clinical surgery				
9. 10.	Preconditions Teaching goals:		Filled condition for	or X semester	
8.	Responsible teacher		Cheaf of Departm d-r Boro Dzonov		ЭС.
6.	Study year/semester		Fourth (IV) and Fifth (V) / Eleventh(XI) and twelfth (XII)	7.Number of credits	14
5.	Degree of education (first or second cycle)		Integrated 6-year	-	
	(Unit, Institute, Chair, Depart	ment)	Ss Cyril and Methodius University, Medica Faculty, Department of Anatomy		
<u> </u>	Institution			lethodius Univer	sity, Medica
2. 3.	Code Study Program		MED 621 General surgery		
1.	Subject		SEMINAR / CLI	NICAL PRACT	ICE
	<ul> <li>V.Georgiev, Prof. d-r Extended lectures of General surgery: Prpi</li> </ul>	urology, digest	ive and Paediatric		anevski •
	<ul> <li>Neuro surgery: Prof. e</li> <li>Prof. d-r K.Lozance, I</li> <li>Clinical Traumatolog</li> </ul>	d-r J.Ugrinovsl Prof. d-r V.Sto y: Prof. d-r I.T	ki, Prof. d-r. S.Jovk levski odorov, Prof. d-r S	ovski, Prof. d-r. I Jovkovski, Prof.	d-r
22.	Textbooks <ul> <li>General and Special s</li> <li>Thoracic surgery: Pro</li> <li>Vascular surgery (scr.)</li> <li>Plastic and Reconstrution</li> </ul>	of- d-r G. Kond ipt) Prof. d-r T	ov Andreevska	J. Gjokic	
	quality of teaching process		porators participating in the teaching		
20. 21.	Language of instruction Method of monitoring the	Macedonian Student and	n onymous evaluation	of the subject. th	e teachers
19.	Requirement for signature and taking the final exam	from 93 to The student activities. <b>Conditiona</b> order to get points in bo present a se In order to to minimum p (colloquium If the stude continual them before The final gr table, and o continuous	ent has not obtained assessments, he/s e the final exam. rade is formed acco f the sum of the po checks and the fina	sment of knowle ident should obtai practical courses, a the student shoul ontinual assessme ed the minimum she will be oblig rding to the offici ints from all the a	dge: In n minimum and to d obtain the ents points in the gated to pass al rating
	_		o 84 points		8 (eight) C

## 11. Brief content:

## Theoretical course:

• Filling surgical history

1	
•	Characteristic of history taking on every department
•	Characteristic of clinical examination on the departments of:
•	Abdominal Surgery
•	Pediatric Surgery
•	Thoracic vascular surgery
•	Urology
•	Neurosurgery
•	Traumatology
•	Plastic Surgery
•	Intensive care
•	Participation in the daily work in clinics
•	Participation in everyday surgical work on the surgical departments
•	Treatment of a patient in an unconscious state
•	reanimation of a patient in an unconscious state (ventilatory and cardiac resuscitation)
•	First aid for bleeding
•	First aid for fractures
•	Immobilization techniques (transport and permanent)
•	bandaging wounds
•	Tratman of wounds and their suture
•	Incision of abscess
•	Local treatment of burns
•	Giving parenteral therapy and intravenous infusions
•	Investigation of prostate with rectal tushe
•	Placement of a nasogastric tube
•	Endotracheal intubation
•	See placing traheostomiska cannula
•	Placement of a urinary catheter
•	Assisting thoracic puncture
•	see setting thoracic drainage
•	Assist in reposition hernia
•	Punctuates wrist
•	Assist in the reposition of fracture
•	Gives local anesthesia
•	Assist with basic operations (hernia plastic, gall surgery gall bladder, appendix
	surgery)
•	Investigation of large joints
•	Other minor interventions
	al practice will be organized within 4 working weeks with a full time of 8 hours. There
	e 2 tensus during the XI and XII semester. During the tensus, the departments and
	rs change. Everyday activities of the student will be recorded in a separate log o
activit	ies that will be verified with the mentor's signature

12. <b>Met</b>	thods of studying:
	<ul> <li>Participation in vocational meetings on the clinics</li> <li>Participation in morning visits</li> <li>Participation in the daily work of the departments at the Surgery Clinic</li> <li>Participation in surgical interventions in the field of surgery</li> </ul>
Stue adm taki	<b>towledge and understanding:</b> Ident will acquire the theoretical knowledge in the field of surgery related to nission of patients in hospital setting, will acquaint the characteristics of history ing on each department, as well as the characteristics of clinical examination on the department. He will be introduced with the procedures for setting up a working

## Crucial Skills:

	The student will be able to apply the gained knowledge, to develop surgical cultur and introduction to surgical principles. After he finishes the practice he will know basically to treat the emergency surgical patient, with the opportunity to do a basis surgical skill. Also he/she will be able to assist on surgical interventions.					
13.	Total available time:			420 hours classes		
14.	Organization of the course		320 classes – hours of exercise 100 classes – domestic studying Teaching will take place within 4 weeks for hours			
15.	Forms of teaching activities	15.1	Theoret	ical course	/ classes	
		15.2	Practica Semina Team b		Practical: 320 classes	
16.	Other forms of activities	16.1	Practice	2	320 classes	
		16.2	Individual tasks		theoretical knowledge in the field of surgery related to admission of patients in hospital setting, as well as the characteristics of clinical examination on each department.	
		16.3	Individu	ual (home) learning	100 classes	

17.	Method of assessment						
	The student is required to attend and actively participate in ongoing turnuses						
	Scoring the student activitie	es					
	Type of activity	Poi	Po ints				
		Min.	Max.				
	Practice	60	100				
	<ul> <li>*Practice: 20 days for 8 hours Attendance: 2.5 points Activity: 2.5 points</li> <li>The student assessment is descriptive (passed)</li> </ul>						
18.	Grading criteria (points / grade)		core at least 60 points	s. The student's			
19.	Requirement for signature and taking the final exam	• in order to get a signature, the student is requir on 2 tensus during the XI and XII semester		•			
		<ul> <li>In order to get a minimum points,</li> <li>If the student has will be obligated</li> </ul>	not obtained the min	should obtain imum points, he/she			
20.	Language of instruction	Macedonian					

21.	Method of monitoring the quality of teaching process		onymous evaluation ors participating in t	5	e teachers and	
22.	Textbooks • Bates' Clinical Rev Piter. G. Shilagi. 2012	views and L	anding History, Aut	hors: Lin. S. Bak	li and	
1.	Subject		SEMINAR / MO	DULE - SURGE	RY	
2.	Code		MED 622			
3.	Study Program		General surgery			
4.	Institution		Ss Cyril and Methodius University, Medical			
	(Unit, Institute, Chair, Department)		Faculty, Department of Anatomy			
5.	Degree of education		Integrated 6-year study			
	(first or second cycle)			1		
6.	Study year/semester		Fourth (IV) and	7.Number of	14	
			Fifth (V) /	credits		
			Eleventh(XI)			
			and twelfth (XII)			
8.	Responsible teacher		Cheaf of Department of Surgery Doc.			
			d-r Boro Dzonov			
9.	Preconditions		Filled condition for	or X semester		
10.	Teaching goals:					
	• On seminars that are prob	lematically	conceptualized with	case repot on par	tients, the	
	current pathology is bei	ing processe	d. The student gets	the opportunity to	o familiarize	
	the wide surgical goal					

11.	Brief content:								
	Theoretical course:								
	<ul> <li>Theoretical process on cases for adequate topics</li> <li>Solving cases on adequate topics</li> <li>Problems conceptualized seminars combined with the case report</li> <li>teaching is organized for 5 days after 4 hours. will be organized 2 tours during the XI and XII semester</li> </ul>								
12.	<ul> <li>Methods of studying:         <ul> <li>takes place mentoring principle with professors. The student actively participates in discussions and public presentations of cases. The student will work each day by system rotation in seminar groups of 20 students, there will be a meeting with experts, will participate in the discussion "for" and "against". Will perform tutoring model teaching by addressing cases</li> </ul> </li> <li>Knowledge and understanding:         <ul> <li>The student will acquire the knowledge to create a diagnostic algorithm,</li> </ul> </li> </ul>								
	working diagnosis an	d surg	ical treatr	nent plan of individua	al clinical case				
	<ul><li>Crucial Skills:</li><li>The student will be al disease with appropri</li></ul>		-		-				
13.	Total available time:			30 hours classes					
14.	Organization of the course			20 classes - seminars 10 classes – domestic studying Teaching will take place within 5 days for 4 hours					
15.	Forms of teaching activities	15.1	Theoretic	cal course	30 classes				

		15.2	Practical course, Seminars Team building	Practical: / Seminars: 20 classes
16.	Other forms of activities	16.1	Practice	/ classes
		16.2	Individual tasks	Seminar work (power point presentation)
		16.3	Individual (home) learning	10 classes

17.	Method of assessment							
	<ul> <li>Final exam: solving case (seminar work) min. max.</li> <li>written part: points 15 - 30 Oral part: points 15 - 30</li> </ul>							
	*Seminar work / project (presentation written or oral)							
	Active participation:     Seminars: points	min. ma 30 - 40						
	* The seminars are organized for Presence: 4 points Activity: 4 points	or 5 days aft	er 4 hours.					
18.	Grading criteria (points / grade)	The student should score at least 60 points. The student's assessment is descriptive (passed)						
19.	Requirement for signature and taking the final exam	and act	to get a signature, the student is required to attend ively participate in the seminars and to get the m predicted points for the seminar					
		<ul> <li>Conditional criteria for assessment of knowledge:</li> <li>In order to get a signature, the student should obtain minimum points, and to present a seminar paper;</li> <li>If the student has not obtained the minimum points, he/she will be obligated to pass them before the final seminar (power point) presentation.</li> <li>The student's assessment is descriptive (passed)</li> </ul>						
20.	Language of instruction	Macedonia	n					
21.	Method of monitoring the quality of teaching process		onymous evaluation of the subject, the teachers and ors participating in the teaching					
22.	Textbooks • Bates' Clinical Re Piter. G. Shilagi. 2012	views and L	anding History, Authors: Lin. S. Bakli and					
1.	Subject		CLINICAL INVESTIGATION 1 AND 2					
2.	Code		MED 314					
3.	Study Program		General medicine					
4.	Institution (Unit, Institute, Chair, Departme	ent)	Ss Cyril and Methodius University, Medical Faculty, Department of Anatomy					
5.	Degree of education (first or second cycle)		Integrated 6-year study					
6.	Study year/semester		Third (III)/ Fifth 7.Number of 6+8					

6.	Study year/semester	Third (III)/ Fifth 7.Number of 6+8
		(V) and Sixth credits
		(VI)
8.	Responsible teacher	Cheaf of Department of Surgery -
		Doc. d-r Boro Dzonov, Cheaf of Department of
		Pediatcs - Prof. d-r Kata Martinova and Cheaf of
		Department of Internal medicina – Prof. d-r Kata
		Martinova

9.	Preconditions		<ul> <li>For Clinical trial 1: Obtained credits (passed exams) of Anatomy 3, Physiology 1, Pathopshysiology 1, signature of Physiology 2 and Microbiologu iwth Parasitology1</li> <li>For Clinical trial 2: Obtained credits (passed exams) of Biochemistry 1, Physiology 2, signature of Pathology 1, Pathophysiology 2 and Clinial trial 1</li> </ul>						
10									
10.	examination in Clinical		ge and skills in the examination o ne	f the patient and further					
11.	Brief content:								
	Theoretical teaching:								
	<ul> <li>History (patient interrogation) in children and adults</li> <li>General status in children and adults</li> <li>Symptoms and signs of disease following the organic the systems</li> <li>Principles review of systems</li> <li>Special examinations of systems</li> </ul>								
	Practical teaching:								
	Practical application of	theoret	ical knowledge						
12.	Methods of studying:								
	• Interactive theoretical to	eaching	, active work with patients						
	Investigation to admission of	oretical patients partme	l and practice knowledge in s in hospital setting, as well as ent. He will be introduced with the plan of individual clinical cases.	s the characteristics of					
	Crucial Skills:								
			master the methods and technic	ues for examination of					
13.	patient and proper interpretation Total available time:	i and ot	102+116 hours classes						
14.	Organization of the course		Theoretical teaching: 90 Practical teaching: 128						
15.	Forms of teaching activities	15.1	Theoretical course	90 / classes					
		15.2	Practical course, Seminars Team building	Practical: 128 classes					
16.	Other forms of activities	16.1	Practice	/ classes					
		16.2	Individual tasks	interactive theoretical teaching, active work with patients					
		16.3	Individual (home) learning	/ classes					

17.	Method of assessment							
	The student is obligated to atten signet.	nd and to be included in the monitor	ing of all activities to get					
	Scoring of student activities							
	Type of activity Points							
		Min	Mah					
	Theoretical teaching	1	5					
	Practical teaching	12	16					
	Final Exam - written	9	15					
	Final exam – written + ora	1 38	64					
	Total	60	100					
18.	81% - 90% - 8 points 91% - 1000% - 10 points **Practical teaching: each prac Presence – 0.5 points To be active in the practical Grading criteria (points / grade)	tical work with patients brings 0.4 p teaching – 0.3 points Assessment of the overall exam is table estimates, based on the sum all activities and points of each par	obtained according to the of the scores obtained from					
19.	Requirement for signature and taking the final exam	<ul> <li>The student is obligated to attend a monitoring of all activities to get s. To accede to the final exam the stuminimum score of theoretical and</li> <li>Final exam: Written (test) + p <ol> <li>Written part (test) : 9 - 15</li> <li>Practical part: practical persystems: 20-34 points</li> <li>Oral part: theoretical discussion 18-30 points</li> </ol> </li> </ul>	signet. udent should obstain a practical training ractical + oral points prformance review 3					
20.	Language of instruction	Macedonian						
20.	Method of monitoring the	Student anonymous evaluation of	the subject, the teachers and					
	quality of teaching process	collaborators participating in the to						
22	· · · · · · ·		<u> </u>					
22.	Textbooks							

## **ELECTIVE SUBJECTS**

	Title of the subject		PHYSIOLOGY HYPERBARIC AM	IN HYPOBARIC AND ABIENT			
2.	Code		MEDI-16				
3.	Study program		General medicine				
4.	Subject of the study program	L	UKIM, Medical Fac	ulty Skopje			
5.	The level of educational prog	gram	Undergraduate Integ	rative Program			
6.	Academy year / semester		Second / IV 7.	Number of1 ECTS credits			
8.	Professor		Prof. D-r Beti Dejan	ova			
9.	Required criteria for the subj	ect	Passed exam of Phys	siology 1			
11.	<ul> <li>The aim of the study program: <ul> <li>Physiology of high altitude: The influence of low atmospheric pressure on human body.</li> <li>Physiology of hyperbaric conditions: The influence of high atmospheric pressure on human body.</li> </ul> </li> <li>The content of the study subject : Theoretical program: <ul> <li>Barometric pressures at different altitude</li> <li>Parcial pressures of oxygen and carbon dioxide at different altitude</li> <li>Oxygen saturation of hemoglobine at different altitude. The influence of acute hypoxia</li> <li>Aclimatization at oxygen low partial pressure</li> <li>Working capacity at high altitude</li> <li>Acute and chronic mountain disease</li> <li>Barometric pressure under the sea level</li> <li>The influence of high partial pressures on gases: nitrogen, carbon dioxide and oxygen • Acute and chronic oxygen intoxication. Oxidative stress</li> <li>Decompression. Kesonic disease.</li> <li>Therapy with hyperbaric oxygen.</li> </ul> </li> </ul>						
	<ul><li>Decompression. Keson</li><li>Therapy with hyperbar</li></ul>	ic disea ic oxyge	se. en.	l hyperbaric ambient.			
12.	<ul><li>Decompression. Keson</li><li>Therapy with hyperbar</li></ul>	ic disea ic oxyge issues i	se. en. n physiology of hypobaric and	d hyperbaric ambient.			
12.	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning: Interactive teaching (theory),</li> </ul>	ic disea ic oxyge issues i	se. en. n physiology of hypobaric and ar work	l hyperbaric ambient.			
	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning:</li> </ul>	ic disea ic oxyge issues i	se. en. n physiology of hypobaric and	d hyperbaric ambient.			
13.	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning: Interactive teaching (theory),</li> <li>Total period for studying</li> </ul>	ic disea ic oxyge issues i	se. en. n physiology of hypobaric and ar work	d hyperbaric ambient.			
13. 14.	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning: Interactive teaching (theory),</li> <li>Total period for studying</li> <li>Study time divisions</li> </ul>	ic disea ic oxyge issues i semina	se. en. n physiology of hypobaric and ar work 30 hours Theoretical lessons	5 hours sSeminar work: 10 hours			
13. 14. 15.	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning: Interactive teaching (theory),</li> <li>Total period for studying</li> <li>Study time divisions</li> <li>Forms of teaching activities</li> </ul>	ic disea ic oxyge issues i semina 15.1 15.2	se. en. n physiology of hypobaric and ar work 30 hours Theoretical lessons Practical lessons (laboratory, clinical seminars) student team work	5 hours sSeminar work: 10 hours			
13. 14.	<ul> <li>Decompression. Keson</li> <li>Therapy with hyperbar</li> <li>Seminar program: Different</li> <li>Methods of learning: Interactive teaching (theory),</li> <li>Total period for studying</li> <li>Study time divisions</li> </ul>	ic disea ic oxyge issues i semina	se. en. n physiology of hypobaric and ar work 30 hours Theoretical lessons Practical lessons (laboratory, clinical seminars) student team	5 hours sSeminar work: 10 hours			

17.	Type of	of points	estimation						
	17.1	Tests			Writing test	points	min-max 12 - 20		
		Final e	exam		Oral exam	points	min - max 12 - 20		
	17.2	Semina	ar exam		Seminar work	point	min - max 24 - 40		
	17.3	Active partici			Theoretical less Practical lessons	ons points	min - max 12 - 24 /		
18.		a for esti s/marks)	imation	from 6	to 59 points50 to 68 points59 to 76 points77 to 84 points	^	5 (five) F 6 (six) E 7 (seven) D 8 (eight) C		
	-				35 to 92 points 3 to100 points		9 (nine) B 10 (ten) A		
	oblig To en neede The f		obliged. To enter needed. The fina	To enter the exam, seminar work (writing text and presenting) is					
20.	Langu perfor	age of su	ıbject	English	Inglish				
21.	<b>^</b>	d of teac	hing activity		Student anonym evaluation of the subject, the program and the teaching stuff				
22.	Literat	ure							
		Oblige	d literature						
	22.1	1	Autho Dejanova B.		Title Physiology in spe conditions of hypobaric and hyperbaric ambien		Year je 2010		
		2	Guyton A.		Medical Physiolog		2000 and on		
		Additi	onal literature						
		Р.бр	Autho		Title	Editor	Year		
	22.2 1 Powers SK Howley ET				nd McGraw-Hill In In: Edition	it 2007			

1.	Title of the course					METHODS FOR VAL TIME ANALYSIS			
2.	Code		ME	EDI-33					
3.	Study program		Ger	General medicine a					
4.	The organizer of the program (unit, ie in department, department)	study nstitute,	Dep	UKIM-Medical faculty Department of epidemiology with biostatistics and medical.informatics					
5.	Degree of education (first or cycle)	r second	Inte	egrated cycle	e				
6.	Academic year / semester			cond / IV rd, fourth, h	7.	Number of 1 ECTS credits			
8.	professor		pro	of. Rozalind	la Isjai	novska			
9.	Prerequisites for enrolling the	he subjec	t pas	sed the exar	n from	biostatistics			
10.	Objectives of the course program (competences): • Provide knowledge and application of survival-survival-time analysis methods in								
11.	everyday medical practice								
12.	Learning Methods: Interactive teaching (theoret	ical), ex	ercises, se	minar work					
13.	Total available time	, •n		30					
13.	Distribution of time								
15.	Forms of teaching activities	15.1	Lectures	- theoretical	1 :	5			
		15.2		laboratory, seminars,		Exercises 10 Seminars 5			

16.	Other forms of activity	16.1	Project assignments	
		16.2	Individual tasks	5
		16.3	Home learning	5

17.	Metho	d of grac	ling						po	oints
	17.1	Final exam			(	minma oral part points 20- 30				nmax.
	17.2 Seminar work / proj (presentation: writ and oral)		oject ritten	S	Seminar work		points		max. 0- 30	
	17.3	Active	participation			Theory Practical		points points	10	nmax - 20 - 20
18.	<ul> <li>18. Evaluation criteria (points / grade)</li> <li>19. Requirement for signature and taking the final exam</li> </ul>					59 points           - 68 points           - 76 points				5 (five) F 6 (six) E (seven) D
					77 85	- 84 points - 92 points -100 points			8	(eight) C 9 (nine) B 10 (ten) A
19.				Conditional criteria: In order to obtain a signature, a student is required to attend the theoretical, practical classes and seminars and to win a minimum score In order to enter the final exam, the student should prepare a written paper in writing and prepare a computerized compilation.						
			The grade for the course is formed according to the rating table, based on the sum of the points from all the activities, the continuous checks and the final exam.							
20.	Langu	age		English	English					
21.		d of m of teach	onitoring the			onymous evalu prators particip		of the course and n the teaching	the te	eachers
22.	Literat	1	llsory literatur	e						
	22.1	No 1				Title edical Statistics ance	s at a	Publisher Blackwell Scien	ce	Year 2009
	22.2	Additio	onal literature						1	
		No	Autho	r		Title	_	Publisher		Year
1.	Subje	ct					H - EQ	RY EPIDEMIOL UALITY AND I NTS		
2.	Code					MEDI-37				

3.	Study Program	General Medicine							
4.	Organizing Institution ( Un Institute, Chair, Departme		med	Department of Epidemiology and Biostatistics with medical informatics, Medical faculty, University "St. Kiril and Metodij", Skopje, R.Macedonia					
5.	Educational degree (first o cycle)	or secon	d Inte	Integrated cycle					
6.	Study year/semester		ПО	по избор 7. Број на ЕКТО					
8.	Responsible teacher		Pro	f. Vesna Velikj	<u>1 кредити</u> Stefanovska, MD MSc	: PhD			
9.	Preconditions for taking th	1e subje	ect Nor	ne					
10.	Teaching goals of the Aims	s of stud	ly prograi	n (competencie	s):				
	<ul> <li>Studying modern, newly-designed methods of epidemiological research</li> <li>Indicate ways to apply them in scientific research work</li> <li>Acquiring knowledge and skills for creating scientific work</li> <li>Components of the right to health - equality and equity</li> </ul>								
11.	Content of the study progr	am:							
	<ul> <li>Theoretical classes:</li> <li>Introduction to the course in modern epidemiologic.</li> <li>A second / third generation</li> <li>Clinical epidemiological</li> <li>RAR method for rapid as</li> <li>PAR method</li> <li>Methods for increasing the Applying the components respondents</li> <li>Recognizing and overcometer</li> </ul>	al resean on epide studies sessmen ne repres s of the n	rch miological at and respo sentativene right to hea	research metho onse ss of the sample alth (equity and	d equity) when selecting				
	<ul> <li>Practical classes:</li> <li>Exercise 1 - applying a second generation of epidemiological research</li> <li>Exercise 2 - applying for a third generation of epidemiological research</li> <li>Exercise 3 - applying the RAR method in practice</li> <li>Exercise 4 - applying the PAR method in practice</li> <li>Exercise 5 - increasing the representativeness of the sample</li> <li>Exercise 6 - showing a movie with experiences of vulnerable groups and discussion</li> <li>Exercise 7 - recognition of discrimination and disparities in scientific research</li> </ul>								
12.	Methods of studying:		-						
10	Interactive teaching, pract	ical cou	irse, semir						
13.	Total number of hours:	-		30 hours					
14.	Distribution of available ti Distribution of available		Lootorea	theoretical					
15.	time	15.1	course	theoretical	5 hours				
1	unie		course						

	15.2	Practical (laboratory, clinical), seminars, team work	Practical work 8 hours Seminars 2 hours
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1.	Subject	ENDOCRINE DYSREGULATION, BIOMARKERS IN CARDIAC FAILURE AND TECHNIQUES OF VISUALISATION				
2.	Code	MEDI-38				
3.	Study Program	General Medicine				
4.	Institution (Unit, Institute, Chair, Department)	Ss Cyril and Methodius University, Medical Faculty, Department of Pathophysiology				
5.	Degree of education (first or second cycle)	Integrated 6-year study				
6.	Study year/semester	Third year/VI	7. Number of 1 credits			
8.	Responsible teacher	Assoc. Prof. Venjamin Majst	torov, PhD, MD			
9.	Preconditions	Exam of Pathophysic Pathophysiology 2	ology 1, Signature of			
10.	e	echanisms of endocrine dysreg or cardiac failure visualisation				

11.	Brief content:							
	Theoretical course							
	• Pathophysiology of endocrine disorders in cardiac failure and mechanisms of release of various biomarkers							
	• Special review on pathophysiological mechanisms of symphatetic nervous system hyperreactivity in cardiac failure							
	<ul> <li>Techniques of visualisation and quantification of cardiac symphatetic hyperreactivity</li> <li>Application of visualisation techniques in risk stratification and cardiac failure prognosis</li> </ul>							
	Practical lessons							
	• Discussion on disorders in cardiac failure, demonstration of some visualisation techniques and their application							
	Seminar							
	• Disorders in cardiac failure-work on separate parts							

12.	Methods of studying:								
	Ex cathedra teaching and interactive teaching during lectures and practical trainings, writting and preparing presentation, independent study by using textbooks, computer assisted learning								
13.	Total available time:			30 classes					
14.	Organization of the course		<ul><li>15 classes - theoretical course, practical course, seminars</li><li>15 classes - home individual learning</li></ul>						
15.	Forms of teaching activities	15.1.	Theoretical course		5 classes				
		15.2.	Practical	course,	5 classes				
			Seminar	S	5 classes				
16.	Other forms of activities	16.1.	Practice		/				
		16.2.	Individual tasks Individual (home) learning		/				
		16.3.			15 classes				
17.	Method of assessment				1				

17.1	Tests	activities, including particip	Students are obliged to follow actively all recommended activities, including participation in the continuous testing o knowledge in order to get signature Scoring the student's activities:						
		Scoring the student's activit							
		Activity	Minimum points	Maximum points					
		Lectures	10	20					
		Individual student's activity	10	20					
		Seminar paper	40	60					
		Total	60	100					
		Oral examination		min-max					
				15-25					

		Final exam		
	17.2	Seminar paper/project (oral/written presentation)	Seminar paper - written form/ presentation	min–max 25-35
	17.3	Active participation	Theoretical course	min–max 10-20
			Practical course	10-20
18.	Gradir	ng criteria	up to 59 points	5 (five) F
	(points	s / grade)	from 60 to 68 points	6 (six) E
			from 69 to 76 points	7 (seven) D
			from 77 to 84 points	8 (eight) C
			from 85 to 92 points	9 (nine) B

				from 93 to 10	00 points		1	0 (ten) A	
19.	Requirement for signature and taking the final exam		The student is required to actively follow all of the planne activities, to write a seminar and prepare presentation in or to take the final exam. The grade in the final exam is given according to the grading table, and on basis of the sum of points obtained in all of the activities						
20.	Language	of inst	ruction	English					
21.	Method of monitoring the quality of teaching process				Anonymous evaluation of the subject and lecturers will be done at the end by the students.				
22.	Textbooks								
	22.1.	Ma	ndatory						
		1.	Kasper D, F	auci A		's Principle al Medicine	S		
		2.	Leonard S. I	Leonard S. Lilly		ysiology of sease	Wolters Kluwer		
		3.	Ziessman		Nuclear	medicine	Elsevier	2006	
			O'Malley Thrall		The Req	uisites	Mosby		
			1 mun						

	22.2.	Ado	litional		1				
		1.	McPhee SJ, Ganong WF:		Pathoph disease. introduc clinical	An ction to	ne a	Langee medical Books/McGr aw-Hill, New York	2003
1.	Subject		L	FETA	L PHYS	SIOLO	GY		
2.	Code			MEDI 112					
3.	Study Prog	ram		General medicine / High schools					
4.	Organizing	g Inst	itution ( Unit,	UKIM-Faculty of Medicine					
	Institute, C	Institute, Chair, Department)			Institute of Physiology and Anthropology Department of physiology				
5.	Educationa cycle)	Educational degree (first or second			ated cycl	e			
6.	Study year	/sem	ester	Secon	d/II	7.	Number credits	of	1

8.	Responsible teacher		Prof. Sunchica	Petrovska MD, PhD				
9.	Preconditions		Passed exam fro	m Physiology 1				
10.	<ul> <li>Teaching goals of the study program (competencies):</li> <li>To learn about the fetal physiology</li> <li>Gaining knowledge on specificity of the functional characteristics of fetal organic systems during intrauterine maturation</li> </ul>							
11.	<ul> <li>Theoretical course:</li> <li>Amnionic fluid and fetal body fluids</li> <li>Physiology of the heart and circulatory system</li> <li>Physiology of the respiratory system</li> <li>Physiology of the gastrointestinal system and metabolism</li> <li>Physiology of the urinary system and acid-base balance</li> <li>Physiology of the nervous and neuroendocrine system</li> </ul>							
12.	Methods of studying: Inte	ractive le	ectures, seminars					
13.	Total no. of hours:		15					
14.	Distribution of the availab	ble time	15 hours le hours home					
15.	Type of educational activity	15.1	Lectures-theoretical course	10 hours				
		15.2	Seminars,	5 hours				

16.	Other types of activities		16.1	Pro	oject assignments	hours
				Individual tasks		hours
			16.3	Ho	ome studying	30 hours
17.	Assess	ment of knowledge:				points
	<ul> <li>17.1</li> <li>1. Seminar work/project presentation: written</li> <li>2. Seminar work/project presentation: oral</li> </ul>			minmax. max.	18-30 points min 30 -50points	
	17.2	Active participation			Theoretical course	minmax. points 12-20
18.		Knowledge assessment u		up	p to 59 points	5 (five) F
	criteria:			60	) to 68 points	6 (six) E
	(point	s/grade)		69	9 to 76 points	7 (seven) D
	<b>T</b>	<i>6 )</i>		77	7 to 84 points	8 (eight) C

					85 to 92 points		9	(nine) B
				ç	93 to 100 points		1	0 (ten) A
19.			aining a aking the	1.	The student is theoretical co In order to ap	s obliged ourse in c oproach t	ment of knowledge: I to participate active order to get a signatu he final exam, the st oresent a seminar pap	re. udent is
20.	Langu	age of th	e course	English	1			
21.	Metho	d for eva	luation of ducation	Anony	mous student's		n of the subject, teache ucational activities	ers and
22.	Literat			1				
		Manda	tory textbooks					
			Author	r	Title		Publisher	Year
		1	S. Petrovska		Fiziologija na	fetus	Medicinski fakultet, Skopje	2012
	22.1	2	Gajton A		Medicinska fiziologija		Savremena administracija, Beograd	2008
		3 Blackburn ST		Г	Maternal, fe neonatal physi		Elsevier	2007
		4	Thorburn GD		Textbook fetal physiology	of	Oxford University	1994

1.	Subject	GENERAL PATHOPHYSIOLOGY OF HOMEOSTASIS				
2.	Code	MEDI-29				
3.	Study Program	General Medicine				
4.	Institution	Ss Cyril and Methodius University, Medical Faculty,				
	(Unit, Institute, Chair, Department)	Department of Pathophysiology				
5.	Degree of education (first	Integrated 6-year study				
	or second cycle)					
6.	Study year/semester	End of summer semester (25	7.Number of credits	1		
		students)				
8.	Responsible teacher	Prof. Daniela Miladinova, PhD, MD				
9.	Preconditions	Exam of Physiology 1, Signat	ture of Pathophysiolog	y 1		

10.	Tea	ching goals: Lectures: To get introduced w disorders types, kind Practices: Demonstration of gl Seminars: Integrate	ds of hom ucose, po	eostatic mec tassium and	chanisms acid-bas	compensative control sy	ion and /stems	adaptation	
11.	Theor • •	content: etical course homeostasis homeostatic systems general pathophysio changes, oscilations mechanisms adaptat cal lessons	s propertion logy of va	es arious home	ostatic di	isorders, ov	erload,	conflicts, setpoint	
12.	Classic	genome homeostasis ods of studying: c - Ex cathedra teachin ars writting an present	ng and int	eractive tead	ching dur	ring lectures			
13.		available time:			30 classe	20			
13.		ization of the course			7 classes 3- practio 5- semin	- theoretica cal course ars			
15.	Forms	of teaching activities			es - home in	7 clas	, e		
			15.2.	Practical of	course, Se	eminars	3 clas 5 clas		
16.	Other	forms of activities	16.1.	Practice			/		
			16.2.	Individual			/		
			16.3.	Individual	(home)	learning	30 cla	asses	
17.	Metho	d of assessment							
	17.1	Tests	Students are obliged to follow actively all recommended activiti         including participation in the continuous testing of knowlidge in         order to get signature         Scoring the student's activities:         Activity       Minimum Maximum points         Lectures       10       20						
								20	
			Individual student's 10 activity				20		
				ar paper		40		60	
			Total			60		100	

	17.2	Seminar						min – n	nax
	17.2	paper/pro	oiect	Se	eminar paper - w	vritten fo	orm		20
		(oral/wri			eminar paper - pre				20
		presentat	tion)						
	17.3	Active pa	articipation				commended activities,		
					cluding participat		ne continuous tes	ting of knowlid	lge in
				or	der to get signatu	re			
						_			
					he grade in the fin				
10	C I	•. •	( • )	an	d on basis of the		points obtained ii		
18.		g criteria	(points		up to 59				(five) F
	/ grade)	)	-		from 60 to 68				(six) E
			-		from 69 to 76			·	even) D
			-		from 77 to 84	<b>.</b>			eight) C
			-	from 85 to 92 points			9 (nine) B		
				from 93 to 100 points The student is required to actively follo				(ten) A	
19.		ement for				equired t	to actively follow	all of the plan	ined
	and tak	ing the fir	hal exam		activities.				
20.	Longuo	as of inst	mation		English				
20.		ge of instr l of monit			English	tudanta (	to classes and int	ana ativa nantiai	notion in
21.			ng process		theoretical and p			eractive partici	pation in
22.	Textbo		ig process		theoretical and p	Jactical	16550115.		
22.	TEXIDO		ndatory						
		1.		N	Skopje, 1997		General		1997
			Scramiov	14.	. экорје, 1777	nath	ophysiology of		1))/
	22.1	•					omeostasis,		
		2.	Gamulin S	s et	all		nophysiology.	Jumena,	2005
		2.	Guillann	, 61		1 uti	lopitystotogy.	Zagreb,	2005
		Add	litional			1		,	
		1.		J. (	Ganong WF:	Pathor	ohysiology of	Langee	2003
	22.2			., .		disease		medical	
	22.2	•				introdu	uction to clinical	Books/McGr	
						medici	ine	aw-Hill, New	
								York	

1.	Subject	PATHOPHYSIOLOGY OF INFLAMMATION				
2.	Code	MEDI-30				
3.	Study Program	General Medicine				
4.	Institution	Ss Cyril and Methodius University, Medical Facul	lty,			
	(Unit, Institute, Chair, Department)	Department of Pathophysiology				
5.	Degree of education (first	Integrated 6-year study				
	or second cycle)					
6.	Study year/semester	End of summer semester (25 7.Number of credits 1				
		students)				
8.	Responsible teacher	Associate prof. Ana Ugrinska, PhD, MD				
9.	Preconditions	Exam of Physiology 1, Signature of Pathophysiology 1				

10.	chronic inflammat inflammation <b>Practices:</b> demons animal	<ul> <li>Lectures: To get introduced with the etiology and the pathogenesis of acute and chronic inflammation and local and general reaction of the organism to the inflammation</li> <li>Practices: demonstation of experimentaly induced inflammation in experimental animal</li> <li>Seminars: Integrated approach in studing various pathophysiologial aspects of</li> </ul>							
11.	<ul> <li>Brief content:</li> <li>Theoretical course: <ul> <li>etiology and pathogenesis of acute and chronic inflammation</li> <li>pathogenetic effects of inflammation</li> <li>inflammation changes</li> <li>manifestations and biochemical assessment of inflammation existence and intensity</li> </ul> </li> <li>Practical lessons: <ul> <li>demonstration of articular infection and inflammation Seminars: chemical mediators of inflammation, biological inflammatory syndrome</li> </ul> </li> </ul>								
12.	Methods of studying: Classic - Ex cathedra teachin seminars writting an present learning								
13.	Total available time:			30 classes					
14.	Organization of the course			30 classes         7 classes - theoretical course         3- practical course         5- seminars         30 classes - home individual learning					
15.	Forms of teaching activities	15.1.	Theoretic	cal course	7 classes				
		15.2.	Practical	course, Seminars	3 classes 5 classes				
16.	Other forms of activities	16.1.	Practice		/				
		16.2.	Individua	ıl tasks	/				
		16.3.	Individua	ll (home) learning	30 classes				
17.	Method of assessment								

	17.1	ſests		Students are oblig including participa order to get signat	ation in the			
				Scoring the studen	t's activitie	s:		
				Activity		Minimum points	Maxim pooint	
				Lectures		10	20	
				Individual stude activity	ent's	10	20	
				Seminar paper		40	60	
				Total		60	100	
	17.2 \$	Seminar					min – r	nax
		paper/pr		Seminar paper -		20		
		oral/wri presentat		Seminar paper - presentation				20
	17.3 A	Active p	articipation	Students are oblig including participa order to get signat	ation in the			
				The grade in the fi and on basis of the				
18.	Grading	criteria	(points		9 points			(five) l
	/ grade)			from 60 to 6	8 points		6 (six) E	
				from 69 to 7	6 points		7 (s	even) I
				from 77 to 8	4 points		8 (	eight) (
				from 85 to 9	2 points		9	(nine) I
				from 93 to 10	0 points	10 (ten) A		
19.	Requiren and takin		-	The student is activities.	required to	actively follow	all of the plar	nned
20.	Language	e of inst	ruction	English				
21.	Method of			Attendance of	students to	classes and int	eractive partici	pation
	- ·		ng process	ocess theoretical and practical lessons.				
22.	Textbook	CS .						
			ndatory				Ι	
	22.1.	1.	Gamulin S	S et all:	Pathop	physiology.	Jumena, Zagreb,	2014

1.	Subject		On	tional subject	ct				
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				A ATOTHER	RAPY	7		
2.	Code			DI 84			-		
3.	Study Program			neral Medicir	ne				
4.	Institution				Methodius	Uni	versity.	Medical	
	(Unit, Institute, Chair, Depa	rtment)		Faculty, Department of Anatomy					
5.	Degree of education (first	,		Integrated 6-year study					
	or second cycle)			0	2				
6.	Study year/semester		Nir	e (IX) /	7.Number	of	9		
			Nir	ie (IX)	credits				
8.	Responsible teacher			oc. Prof. Bilj cialist	jana Mitrevsk	xa, M	D, PhD,	PRM	
9.	Preconditions		No	ne					
11.	<ul> <li>Teaching goals:</li> <li>To get knowledge of the peloids);</li> <li>To get knowledge of the</li> <li>To get knowledge of the</li> <li>To get knowledge with the application</li> <li>To have the ability to application</li> <li>To get to know the role of the the ability to applicate to know the role of the the ability to applicate to the ability to applicate to the ability to applicate the ability to application</li> <li>To become familiar with the the ability to applicate the ability the ability the ability the applicate the applicate the ability the applicate the ability the applicate the ability</li></ul>	methods of he mineral oly minera of climatot peloidoth ion, mecha ms, their d es of peloi actors, clin limate, sea	of treatment l waters, s al water in therapy in therapy, her anism of a leposit, pre- id, method mate condi	at in balneocl pecies, their the treatment the treatment activity and ction, method paration and s and techniq tions and the	imatotherapy effects on the t of the diseas application • ls of applicati regeneration ues for applic ir effects on t	patie sed an To k ion catior	ents and nd the in now abc	their jured	
12.	Methods of studying:								
13.	theoretical lessons Total available time:			30 classes					
13. 14.					theoretical c	011100			
	Organization of the course		1	15 classes -	home indivi	dual l	learning		
15.	Forms of teaching activities	15.1.	Theoreti	cal course	15	class	es		
		15.2.		course, Sem	inars				
16.	Other forms of activities	16.1.							
		16.2.	Individual tasks						
		16.3.	Individu	al (home) lea	rning 15	class	es		
17.	Method of assessment								

	17.1	Tests	Continual assessment 18-30	) points	min – max 1				
			1 Final test points 18-30 (if check)	hey have not p	bassed the continuous				
				The student is obliged to achieve a minimum of the exp points. In contrast, the exam is not considered.					
	17.2	Seminar paper/project (oral/written presentation)	1 seminar paper/project po	1 seminar paper/project points					
	17.3	Active participation	Theoretical course Attending the theoretical less 51% -60% 6 points 61% -70% 7 points 71% -80% 8 points 81% - 90% 9 points	sons	min – max 6-10				
18.	Cradin	g criteria	91% - 100% 10 points		5 (five) F				
10.		/ grade)	up to 59 points from 60 to 68 points		6 (six) E				
	<b>u</b>	8,	from 69 to 76 points	7 (seven) D					
			from 77 to 84 points		8 (eight) C				
			from 85 to 92 points		9 (nine) B				
I			from 93 to 100 points		10 (ten) A				
19.	Requir	ement for signature	The student is required to	actively follow	w all of the planned				
	and tak	ing the final exam	activities.						
			<ul><li>Conditional criteria for assessment of knowledge: In order to get a signature, a student is required to attend the theoretical classes and to get a minimum points.</li><li>The grade for the subject is formed according to the rating table, based on the points from all the activities, the continuous checks and the final exam.</li></ul>						
20.	Langua	ge of instruction	English						
21.	Ŭ,	d of monitoring the	Student anonymous eval	uation of the s	subject and the teachers				
		of teaching process	and collaborators particip						
22.	Textbo	oks							
		Mandatory							
	22.1	. 1. Basics o	Physical Therapy Erieta Dimitro	Nikolik- va	Laser Jet, 2011 Skopje RM				

	2.	Physical Therapy	Vukasin Mihajlovik	Obodsko slovo, Rijeka Crnojevika	2002
22.2.	Ado	litional			

1.	Subject	EXERCISE THERAPY					
2.	Code	MEDI 78					
3.	Study Program	General Medicine					
4.	Institution (Unit, Institute, Chair, Department)	"Ss Cyril and Methodius" University, Faculty of Medicine, Institute of Physical medicine and rehabilitacion					
5.	Degree of education (first or second cycle)	Integrated 6-year study					
6.	Study year/semester		mber of 1 dits				
8.	Responsible teacher	Ass.Prof.Valentina Koevska, PhD,MD					
9.	Preconditions	Filled in enrollment in IX semester					
10.	<ul> <li>Teaching goals:</li> <li>Introduction to basic principl the process of medical rehabi</li> <li>Introduction with kinesithera</li> <li>Introduction with kinesithera indications and contraindicat</li> <li>Link the efficacy of kinesithera</li> </ul>	itation. y methods and the means or y as a therapeutic procedure ons	f kinesitherapy e with its own				

11.	Brief content:
	Theoretical course:
	<ul> <li>The place of kinesitherapy in physical medicine and rehabilitation</li> <li>Biological effects of kinesitherapy on locomotor, nervous, cardiovascular, respiratory and digestive systems</li> <li>The influence of kinesitherapy on the psychic, social and professional position of the patient</li> <li>Goals of kinesitherapy</li> <li>Principles of kinesitherapy</li> <li>Means of kinesitherapy</li> <li>Dosage of kinesitherapy</li> <li>The starting position of the exercises</li> <li>Kinesitherapy equipment</li> <li>Methods of monitoring and recording in kinesitherapy</li> <li>Recreational gymnastics and kinesitherapy through sporting activities</li> </ul>
12.	Methods of studying:
	Interactive teaching during lectures and independent study by using textbooks
13.	Total available time:30 classes

14.	Organ	ization of the course			15 classes - the	eoretical course		
					15 - home individual learning			
15.	Forms activit	of teaching	15.1	Theoreti	cal course	15 classes		
	activit	ies	15.2	Practical	course,			
				Seminar	S			
16.	Other	forms of activities	16.1	Practice				
			16.2	Individu	al tasks			
			16.3	Individual (home) learning		15 classes		
	Metho	d of assessment						
	17.1	Tests				min – max		
				Cont	inual assessmen	nt points18-30		
		Final exam		Writt	en part	minmax. points 18-30		
					cted points. In co	I to achieve a minimum of the ontrast, the exam is considered		

	17.2	Seminar work / (presentation: and oral)	project written	Seminar work	c -1	minmax points 36-60
	17.3	Active participatio	n	minmax. Theoretical in * Attended th 51% -60% 6 p 61% -70% 7 p 71% -80% 8 p 81% - 90% 9 91% - 100% p	e theoretical lessons points points points points	points 6-10
18.	Gradin	lg criteria	u	p to 59 points		5 (five) F
	(points	/ grade)	from 6	0 to 68 points		6 (six) E
			from 6	9 to 76 points		7 (seven) D
			from 7	7 to 84 points		8 (eight) C
			from 8	5 to 92 points		9 (nine) B
			from 93	to 100 points		10 (ten) A
19.	Requir	ement for signature	The stud	ent is required t	to actively follow all	of the planned
	and tal	king the final exam	activities	5.		
			Conditio	onal criteria fo	r assessment of kno	wledge:

				In order to get a signature, the student should obtain minimum points in both theoretical and practical courses, and to present a seminar paper; In order to take the final exam, the student should obtain the minimum points in the three continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.				
20.	Language of instruction			English				
21.	Method of monitoring the quality of teaching process			Student anonymous evaluation of the subject and the teachers and collaborators participating in the teaching				
22.	Textbooks							
		Mandatory						
	22.1	1.	Miroslava Stojanovska		Fundimentals kinesitherapy	of	Pergament Pablic, Skopje, R.M.	2010
	22.2							

		1.	Erieta NikolicDimitrova	(K Ph Me	ercise therapy inesitherapy), ysical edicine and habilitation	Skopje:Laserjet,	2011
		2.	Martin. D. Hofman et al. Eds De Lisa et al.	ex In an Pri	rapeutical ercises, Physical medicine d rehabilitation inciple and actices		2011
		2	Eds. Randall Braddom		ysical Medicine and habilitation. - Some Chapters		2011
1.	Subject			<u>^</u>	NTS IN PAIN TREA	TMENT	
2.	Code			MEDI 90			
3.	Study program			Study for Doctors of Medicine			
4.	Institution (Unit, Institute, Chair, Department)						

5.	Degree of education	Integrated 6-year study					
	(first or second cycle)						
6.	Study year/semestar	Fifth/IX	7.	Numberof1ECTS credits			
8.	B.       Responsible teacher       Prof. Erieta Nikolikj Dimitrova, MD, MSc, Ph         PRM specialist						
9.	Preconditions Requirement for the ninth semester fulfilled						
10.	Preconditions       Requirement for the minin senester fulfilled         Teaching goals:       -       To acquire knowledge for fundamentals of physical agents         -       To acquire knowledge for physiological and therapeutic effects of some physical modalities         -       To acquire knowledge about usage of these methods in treatment and research         -       To acquire knowledge and training for applying physical modalities in treatment of acute pain         -       To acquire knowledge and training for applying physical modalities in treatment of chronic pain						

11.	Brief content								
	Theoretical course:	Theoretical course:							
	<ul> <li>Fundamentals of electrotherapy</li> <li>Galvanic currents</li> <li>Iontophoresis</li> <li>Dyadinamic currents</li> <li>Interferential currents</li> <li>High Frequency currents (Short currents)</li> <li>Transcutaaneous electrical nerve stimulation</li> <li>Therapeutic ultrasound</li> <li>Low level laser therapy</li> <li>Low frequency electromagnetic field</li> <li>Shock wave therapy</li> </ul>								
12.	Methods of studying:								
	Interactive teaching during lectures, independent study by using textbooks.								
13.	Total available time:			30 classes					
14.	Organization of the course				oretical course, me individual learning				
15.	Forms of teaching activities	-		theoretical	15 classes				
		15.2	Practical clinical le work	instructions, essons, team					

16.	Other forms of activities		16.1	Practice			
			16.2	Individual tasks	7 classess		
				Individual home	8 classes		
				learning			
17.	Metho	d of assessment					
	17.1	Tests			min – max		
				Continual assessment	- 1 (written) 18-30 points		
	Final exam			Final exam: final test + seminar			
				n 18-30 points			
				The grade in the final exam is given according to the grading table, and on the basis of the sum of points obtained in all of the activities.			

(points Requir	(oral/written prese Active participation g criteria / grade) ement for signature cing the final exam	from from from from from 93	*			nts 5 (five) F 6 (six) E 7 (seven) D 8 (eight) C 9 (nine) B 10 (ten) A	
Gradin (points Requir	g criteria / grade) ement for signature	from from from from from from 93	up to 59 points 60 to 68 points 69 to 76 points 77 to 84 points 85 to 92 points 8 to 100 points dent is required to		6-10 poi	5 (five)       F         6 (six)       E         7 (seven)       D         8 (eight)       C         9 (nine)       B         10 (ten)       A	
(points Requir	ement for signature	from of from of from of from 93 from 93	up to 59 points 60 to 68 points 69 to 76 points 77 to 84 points 85 to 92 points 8 to 100 points dent is required to			5 (five)       F         6 (six)       E         7 (seven)       D         8 (eight)       C         9 (nine)       B         10 (ten)       A	
(points Requir	ement for signature	from of from of from of from 93 from 93	60 to 68 points 69 to 76 points 77 to 84 points 85 to 92 points 8 to 100 points dent is required to	o active		6 (six)         E           7 (seven)         D           8 (eight)         C           9 (nine)         B           10 (ten)         A	
Requir	ement for signature	from from from from from from from 93	69 to 76 points 77 to 84 points 85 to 92 points 8 to 100 points dent is required to	o active		7 (seven) D         8 (eight) C         9 (nine) B         10 (ten) A	
Requir	ement for signature	from from from from from from from from	77 to 84 points 85 to 92 points 8 to 100 points dent is required to			8 (eight) C 9 (nine) B 10 (ten) A	
	U	from 93 from 93 The stud	85 to 92 points 8 to 100 points dent is required to	o active	ly follow all of the	9 (nine) B 10 (ten) A	
	U	from 93 The stud	to 100 points dent is required to	o active	ly follow all of the	10 (ten) A	
	U	The stud	dent is required to	o active	ly follow all of the		
	U		*	o active	ly follow all of the t	1 1	
and tak	ting the final exam	activitie			Ty tonow an of the j	planned	
		activitie	s.				
		In order points in The gra table, an	to get a signatur n both theoretical de in the final exa nd on the basis of	e, the st l course am is gi	tudent should obtain s. iven according to th	n minimum e grading	
Langua	age of instruction	English	English				
			Student's anonymous evaluation of the subject and teaching				
quality	of teaching proces	s stuff wh	stuff who are involved in the education.				
Литера	атура						
		тература					
			Наслов		Издавач	Година	
22.1	1 Erieta Nil Dimitrova	ι,	Fundamentals	of	Laserjet Skopje	2011	
	Methoo quality Литера	Language of instruction         Method of monitoring the         quality of teaching process         Литература         Задолжителна ли         Р.бр       Ав'         22.1       1	Language of instruction       English         Method of monitoring the quality of teaching process       Student stuff wh         Литература       Задолжителна литература         Р.бр       Автор         1       Eriota Nikoliki	and taking the final exam activities. Conditional criteria for In order to get a signatur points in both theoretical The grade in the final ex table, and on the basis of activities. Language of instruction English Method of monitoring the quality of teaching process stuff who are involved in Литература 22.1 1 Erieta Nikolikj- Dimitrova, Fundamentals	and taking the final exam activities. Conditional criteria for assess In order to get a signature, the st points in both theoretical course The grade in the final exam is git table, and on the basis of the sur activities. Language of instruction English Method of monitoring the quality of teaching process Student's anonymous evaluat stuff who are involved in the edit Литература <u>Задолжителна литература</u> <u>Р.бр Автор Наслов</u> 1 Erieta Nikolikj- Textbook:	and taking the final exam activities. Conditional criteria for assessment of knowledge In order to get a signature, the student should obtain points in both theoretical courses. The grade in the final exam is given according to the table, and on the basis of the sum of points obtained activities. Language of instruction Method of monitoring the quality of teaching process JurepaTypa 22.1 22.1 Language of instruction ABTOP ABTOP Hacnob Hacnob Method of ABTOP Hacnob Hacnob Hacsob Fundamentals of ABTOP Laserjet Skopje	

	Доплн	ителна литература			
	Р.бр	Автор	Наслов	Издавач	Година
22.2	1	Eds.J. De Lisa	In Physical Medicine and Rehabilitation. Principles and Practice Some Chapters: - Therapeutic physical modalities		2011

	2 Eds. Randall Braddom	In Physical Medicine 2011 and Rehabilitation. Some Chapters: - Modalities of physical agencies					
1.	Subject	PHYSIOLOGY OF SLEEP					
2.	Code	MEDI-22					
3.	Study Program	General medicine					
4.	Organizing Institution ( Unit,	UKIM-Faculty of Medicine					
	Institute, Chair, Department)	Institute of Physiology and Anthropology					
5.	Educational degree (first or second	Integrated cycle					
6.	cycle) Study year /semester	Second/IV 7. Number of 1 credits					
8.	Responsible teacher	Prof. Sanja Mancevska MD, PhD					
9.	Preconditions:	Passed exam of Physiology 1					
10.	<ul> <li>Teaching goals of the study program (competencies): <ul> <li>To be able to define and to explain the physiological basis of sleep, the sleep phases, the nature and the function of neurotransmitters and the factors that influence the circadian rhythm.</li> <li>To be able to recognize and differentiate between the basic sleep disorders</li> </ul> </li> <li>Contents of the study program: <ul> <li>Theoretical and practical courses:</li> <li>The state of alertness and sleep. Theories of the alertness -sleep cycle</li> <li>Sleep stages: REM phase and slow wave (non REM) sleep and their characteristics</li> <li>Registration of brain activity in a state of alertness and sleep</li> <li>Neurotransmitters and sleep: the role of neurotransmitters in the maintenance of the alertness-sleepiness cycle (excitatory and inhibitory neurotransmitters)</li> <li>Melatonin and circadial rhythm of sleep and its disorder due to time zones</li> </ul> </li> </ul>						
<u>12.</u> 13.	<ul><li>organic systems</li><li>Factors affecting sleep: die</li><li>Insomnia and physiologica</li></ul>	eep and its impact on the nervous system and other et, physical activity, age, etc. al approach to address it. hypersomnia, and narcolepsy. bology of sleep					
14.	Distri	bution of the availab	le time			lectures, laborator	'Y
-----	--------------------	--------------------------------	-------------	---------------------	----------------------	---------------------	-------------------------
				1		home studying	
15.	Type	of educational	15.1	Le	ectures-theoretical	5 hours	
	activit	У		co	urse		
			15.2		actical (laborat	tory, 10 hours	
					nical),		
					minars,		
					am work		
16.	Other	types of activities	16.1	Pr	oject assignments	hours	
			16.2	In	dividual tasks	5 hours	
			16.3	He	ome studying	10 hours	
17.	Assess	ment of knowledge:					points
	17.1					min max.	
				Written exam		total 12-20 points	
		Final exam					
					Oral exam		minmax. 12-20 point
	17.2	ect				min max.	
		(presentation: writte oral)	en and		Seminar works points		24-40
	17.3	Active participation			Theoretical cours	se	minmax. points 12-20
18.	Know	ledge assessment		u	p to 59 points		5 (five) F
	criteria				0 to 68 points		6 (six) E
	(noint	s/grade)			9 to 76 points		7 (seven) D
	(point	s/grade)		7	7 to 84 points		8 (eight) C
				8	5 to 92 points		9 (nine) B
				93	to 100 points		10 (ten) A
19.		a for obtaining a	Cond	litio	nal criteria for a	ssessment of kno	wledge:
	signatu final e	To ob oblige		n signature, active	presence at theor	etical lessons are	
			To en is	ter	the exam, seminar	r work (writing te	xt and presenting)

		needed.
		The final mark is formed by summarizing the points of certain activities.
20.	Language of the course	English
21.	Method for evaluation of the	Anonymous student's evaluation of the subject, teachers and
	quality of education	collaborators involved in the educational activities
22.	Literature	

		Manda	atory textbooks						
			Author		Title		Publisher	Year	
		1	Widmaier E, Raff		Vander's Human Physiology: The		McGraw -Hill Education	2013	
			H, Strang K.		ysiology: The chanisms of Boo		Education		
					nction.	- 5			
	22.1	2	Guyton AC, Hall		xtbook of Medic	al	Elsevier, London,	2011	
			JE.		ysiology 12 th ition.				
		3	Naiman R.		aling night: The		Barnes and Noble	2006	
					ence and spirit of eping, dreaming,				
					d awaking.				
1.	Subjec	•t			SPORT PHYS		OGV		
2.	Code				MEDI 112		001		
3.	Study Program				General medicine / High schools				
4.	0	0	nstitution ( Unit,		UKIM-Faculty of Medicine				
	Institu	te, Cha	•		gy and Anthropolog	У			
~	<b></b>				Department of		ology		
5.	Educa cycle)	tional c	legree (first or second	l	Integrated cycle				
6.		year /s	emester		Second/II	7.	Number of credits	1	
8.	Respo	nsible t	eacher		Prof. Sunchica Petrovska MD, PhD				
9.	Precor	nditions	5		Passed exam from Physiology 1				
10.	Teachi	ing goa	ls of the study progra	m (c					
	•	Gaini	ng knowledge on inf	fluar	ce of physical	avoro	ise on muscles		
	-		ovascular, respiratory						
	•		ng knowledge on mu			c sys			
	•		arn about the physic		0	sofr	ecovering		
	•		ng knowledge on in	<u> </u>			U	body	
	during physical exercise and g					-		- J	

11.							
	Theor	etical course:					
		Oxygen consumption Oxygen consumption Oxygen diffusion can Physical activity as Fatigue and types on The basic physiologic glycogenlactic acid Thermoregulation of temperature	on and re on and ca apacity i a stress f fatigue gical med system, luring ph in muscl	espiratory ardiac outj n athletes factor (biochem chanisms recovery nysical exe le strength	ventilation dur out during exer ical changes ar of recovery pro of the aerobic s ercise under con	cise nd phases of muscle fatigue) cess (reconstitution of	
12.		ods of studying: Inter	active le	ectures, se	minars		
13.	Total	no. of hours:			15		
14.	Distril	bution of the availab	ole time	15 hours lect hours home st		2	
15.	Type of educational activity		15.1 15.2	Lectures-theoretical course Seminars,		10 hours 5 hours	
						5 110015	
16.	Other	types of activities	16.1	Project assignments		hours	
			16.2	Individual tasks		hours	
17.	Assess	ment of knowledge:		16.3 Home studying		30 hours points	
	17.1       1. Seminar work/pr         presentation: writte         2. Seminar work/pr         presentation: oral		oject n	min max.	-max.	18-30 points min 30 -50points	
	17.2	Active participation	l	Theo	retical course	minmax. points 12-20	
18.		edge assessment		up to 59	9 points	5 (five) F	
	criteria	ı:		60 to 68	•	6 (six) E	
	(point	s/grade)		69 to 70	•	7 (seven) D	
				77 to 84	•	8 (eight) C	
				85 to 92	<u>^</u>	9 (nine) B	
				93 to 100	) points	10 (ten) A	

19.	Criteria for obtaining a signature and taking the final exam Language of the course Method for evaluation				3.	<ul> <li>Conditional criteria for assessment of knowledge:</li> <li>3. The student is obliged to participate actively in the theoretical course in order to get a signature.</li> <li>4. In order to approach the final exam, the student is obliged to write and present a seminar paper.</li> </ul>				
20.	Langua	age of th	ne course		Englisł	1				
21.	-	-				mous student's evaluation	on of the subject, teach	ers and		
	the qua	ality of e	education		•	prators involved in the ed				
22.	Literat									
		Manda	atory text		,		1			
			Author		Title	Publisher	Year			
		1	S. Petro	ovska		Osnovni na fiziologija na sportot	Mariv, Skopje	2010		
	22.1	2	Gajton Foss M	A IL, Keteyan		Medicinska fiziologija Fox <sup>-</sup> s physiological	Savremena administracija, Beograd WCB/Mc Graw-	2008 1998		
			SJ.			basis for exercise and sport	Hill			
Subje	ct				OCCUPATIONAL DISEASES AND WORK-RELATED DISEASES					
Study	progra	am		Gener	al med	icine				
Code				MEDI	[-78					
Study	year			By ch						
Semes	ster			Winte	r/Sumr	ner, up to 20 students				
	no. of h	ours		15						
Credi				1						
	of the s	-		Electi	ve					
	ndition			None						
	ucted by			-		of Occupational medicir	ie			
	onsible t	eacher				Dr. Jordan Minov				
Addro	ess			WHO	epartment of occupational medicine of the Republic of Macedonia, /HO Collaborative Center, II Makedonska Brigada 43, 1000 Skopje. el. +389 2621 428, e-mail occhemed@onnet.com					
Key w	Key words N				Medical Faculty, undergraduate studies, elective subject, occupational diseases, work related diseases					

Aims of the study Brief content	<ul> <li>Studying the pathogenesis, diagnostics, treatment and prevention of occupational diseases and work-related diseases</li> <li>Case reports and demonstration of epidemiological and clinical research of the occupational diseases and workrelated diseases</li> <li>Seminar work in occupational pathology</li> <li>Theoretical course         <ul> <li>Occupational diseases and work-related diseases – definition, legislation, pathogenesis, diagnostics, treatment and prevention</li> <li>Occupational diseases and work-related diseases of the lungs</li> <li>Occupational diseases of the liver</li> <li>Occupational diseases of the locomotor system</li> <li>Occupational malignant neoplasm Practical course</li> <li>Asthma related to work/occupational asthma – case report</li> <li>Lung diseases related to asbestos exposition – case report</li> <li>Occupational contact dermatitis – case report</li> <li>Occupational lead poisoning – case report</li> <li>Occupational noise damages – case report</li> </ul> </li> </ul>
	<ul> <li>Seminar papers</li> <li>COPD related to professional exposition</li> <li>Occupational zoonoses</li> </ul>
Organization	Theoretical course: 5 hours Practical course: 5 hours Seminars: 5 hours

-	fic recommendations e course	in order to get a	-		ely in all anticipat	ted activities			
		Points for the a Activity type	ctivities of the stu	ident: Poin	ts				
				Min	Max				
		Theoretical cou	irse	10	20				
		Practical course	e	10	20				
		Seminar		40	60				
		Total:		60	100				
		The grading of the student is descriptive (passed the exam)							
Textb		<ul> <li>Bislimo Mijakos recenzij</li> <li>Minov profesio</li> </ul>	irani predavanja ovska Karadzinsk ski D, Stoleski S ja) Additional: J. Bolesti na beli onalnata ekspozio na na trudot na R	ta J, M . Medi te drot cija. Sl . Make	inov J, Risteska cina na trudot (v povi I plevrata po copje : Pristopi, edonija, 2009	yo faza na ovrzani so			
1.	Subject		INTENSIVE C	ARE N	<b>IEDICINE</b>				
2. 3.	Code Study Program		MEDI-22 General medicin	e					
4.	Study ProgramOrganizing Institution ( Unit, Institute, Chair, Department)		General medicine UKIM-Faculty of Medicine Department of anesthesiology, reanimation intensive care						
5.	Educational degree ( cycle)	first or second	Integrated cycle						
6.	Study year /semester		V/Ninthtwelfth	7.	Number of credits	1			
8.	Responsible teacher		Prof. Mirjana Sh	osholc	heva, MD, PhD				
9.	Preconditions:		Passed exam in a	anesthe	siology and reani	mation			
10.	Teaching goals of the	e study program	(competencies):						

·	r										
	•	The student will be patients and the re	-			intensive ca	re, critically ill				
	•	Elements of cardio	- pulmo	onary resu	scitation	n					
	•	The student will b	-	•		of care and	lintensive				
		treatment of the cr									
		care medicine		III P with its		511115 11000					
11.	Conte	nts of the study prog	ram								
11.		retical and practical of									
	•		ntensive care medicine, organization of the intensive care unit, monitoring of								
		the vital parameters									
	•		cal conditions as a result of hypoxia cal conditions caused by circulatory disorders								
	•										
	•		ions with disorders of the body fluids homeostasis ions and consciousness disorders								
	•										
	•	Critical conditions			•	orders					
	•	Critical conditions		•							
	•		itical conditions caused by head injuries								
	•	critical conditions caused of chost thoughting									
	•			aused by abdominal emergencies							
	Critical conditions caused by cardiac arrest in pregnant women										
	• Critical conditions in cases of intoxications, burns, terminal extremes,										
	drowning, electric shock										
	•	Artificial ventilation, central vein pathways, ports									
12.	Metho	ods of studying Li	stening,	demonstr	demonstration, practical course and acquiring skills,						
	discus	sion/consultation with	the lect	urers							
13.	Total	no. of hours:			30 hours						
14.	Distri	bution of the availab	le time		20 hours lectur	res, practical					
					15 hours home	e studying					
15.	Туре	of educational	15.1	Lectures	-theoretical	10 hours					
	activit	y		course							
			15.2	Practical	skills in ICU,	10 hours					
				seminars							
			16.0	Home stu	ıdying	10 hours					
17.	Assess	sment of knowledge:					points				
	17.1	Tests					min max.				
				Writt	en exam		total 12-20 points				
		Final exam									
				Oral	evam		minmax.				
				Utal	ланн -		12-20 point				
	17.2	Seminar work/proje	ct				min max.				
	17.2	(presentation: writte		Semi	nar works		24- 40				
		oral)	anu	points			24-40				
1	L	Juli		points	,						

	17.3	Active participation	Theoretical course	minmax. points 12-20
				I I III I

18.	Knowl	edge ass	sessment		up to 59 points			5 (five) F		
10.	criteria				60 to 68 points			6 (six) E		
	<i>.</i>	/ 1 \	_		69 to 76 points			7 (seven) D		
	(point	s/grade)	_	77 to 84 points		8 (eight) C				
			_		85 to 92 points			9 (nine) B		
				9	3 to 100 points		10 (ten) A			
19.			aining a	Condi	tional criteria fo	r asses	sment of knowled	ge:		
	signatu final ex		aking the	obliged To ent	To obtain signature, active presence at theoretical lessons are obliged. To enter the exam, seminar work (writing text and presenting) is needed.					
	20. Language of the course			activiti	The final mark is formed by summarizing the points of certain activities.					
20.				Englis			0.1 1.1	1 1		
21.			aluation of	-			on of the subject, te			
22.	Literat		ducation	conado		ators involved in the educational activities				
<i>LL</i> .	Literat	1	tory textbook	7 <b>S</b>						
	Trandatory to		Autho		Title		Publisher	Year		
		1	Andrew Bersten, an	D.	Oh's Intensive C	Oh's Intensive Care Manual		2013		
	22.1	2	Soni The ICU Bo	ook	Paul L. Marino.		Lippincott Williams and Wilkins,	2013		
		3	Critical care	2	Jesse B. Hall, Gregory A. Sch	midt	Nc Graw Hill, Medical	2006		
1.	Subje	ct	I				RKERS FOR DI S OF DISEASES	AGNOSIS		
2.	Code				MEDI-10					
3.	Study	progra	m		General med	icine				
4.	Organ	izer of	the study pr	ogram	Ss. Cyril and	Metho	odius			
	(Unit,	i.e.			-	of Bioc	chemistry and			
	Institu	te, Dep	artment)		Clinical Bioc	chemis	try			
5.	Degre	;	ication (first	t or	Integrated cy	cle				
6.			ar/semester		Second/IV	7.	Number of ECTS credits	1		
8.	Respo	onsible t	eacher		Prof. Dr. Son	ija Top	uzovska			

). <b>I</b>	Precond	litions			are from Bioc ochemistry 2	hemistry 1		
10.	• T	of the course progr Teaching/studying of Demonstration and pr	enzyme	es importa	ant for medica			
11.	Conte	ents of the course p	ogram	:		Theoretical o	course:	
12.	Semin • Learr	Principles of enzymes Isoenzymes and the Methods for deterned Enzymes importane Enzymes importane Enzymes in the ne Enzymes as tumore cal course: Tests for determined discontinual, electrone mar paper: Selected chapters for ming methods: ctive teaching (theorem)	eir sign nination at for dia onatal p marker ation of ophoreti	n of enzyn agnosis an agnosis an beriod 's Fenzymes ic zymology	nd prognosis on nd prognosis of and isoenzyr	nes, continual,	iseases	
13.		no. of hours	30 hours					
14.	Distri	bution of the total 1	no. of h	ours		nours of teaching, exercises, seminars nours studying at home		
15.	0	nization of the e program	15.1	Lectures		5 hours		
			15.2	Practical (laborate clinical) seminars work	ory,	Exercises 5 hour Seminars 5 hour		
16.	Other				asks	hours		
			Individu		hours			
						15 hours		
			10.5	Studying	g at home	15 hours		
17.	Meth	od of assessment	10.5	Studying	g at home	15 hours	point	
17.	<b>Meth</b> 17.1	od of assessment Tests	10.5	Studying		15 hours minm - 20	*	
17.			10.5			minm	points ax. minmax. 15 - 25	

					Practical course	points	10 - 20				
					Up to 59						
18.	Asses	sment c	riteria		points		5 (five)				
				from	from 60 to 68 points 6						
	(point	ts/grade	e) [	from	69 to 76 points		7 (seven)				
				from	77 to 84 points		8 (eight)				
				from	85 to 92 points		9 (nine)				
					93 to100 points		10 (ten)				
19.	signat final o	exam	r obtaining d taking the	In order practice number In order seminar The gr grades	<ul> <li>Conditional criteria:</li> <li>In order to get a signature, a student needs to attend theoretical, practical classes and seminars as well as to obtain a minimum number of points</li> <li>In order to approach the final exam the student should submit a seminar paper in a written form and to prepare PPS.</li> <li>The grade for the subject is obtained according to the table of grades and based on the sum of points gained in all of the activities, continual assessment of knowledge and final exam.</li> </ul>						
	and le Metho	earning	nitoring the		lonian s' anonymous evaluation tes participating in the t		the teachers and				
22.	Textb	ooks									
		Mand	atory textbo	ooks							
		Num.	Auth		Title	Publisher	Year				
	22.1	1	David M. H		Diagnostic enzymology	Willey, London	1987				
		Addit	ional textbo			l					
		Num.	Auth	or	Title	Publisher	Year				
	1 Nada Majki		T. tić-	Klinička enzimologija	AID Praktikum	1002					
	22.2		Singl	1			1993				
		oral)	ntation: writh	ten and	Seminar paper	points	25 - 35				
	17.3	Active partici	pation		Theoretical course	points	minmax. 10 - 20				

Subject:	NUTRITIONAL ANTHROPOLOGY
Study program:	General medicine
Semester:	Summer semester, the last week of June, in the premises of Department of physiology and anthropology, up to 10 students
Total no. of hours	15
Credits:	1
Type of the subject:	Elective
Preconditions:	Completed course in physiology 1 and signature from physiology 2
Program author:	Prof. Lidija Cingo Todorovska, PhD MD
Conducted by:	Department of physiology
Responsible teacher:	Prof. Lidija Cingo Todorovska, PhD MD todorovskalidija@ymail.com
Address:	Department of MEP physiology and anthropology, Medical faculty, 50 Divizija No. 6, 1000, Skopje tell: + 389 2 3111 774; fax: + 389 2 3113 627
Key words:	Medical faculty, graduated study, elective subject, nutritional anthropology, anthropometry, nutritional status.
Aims of the study:	To acquire the basic knowledge about the opportunities of anthropology and its methods in evaluation of nutritional status of individuals and population, and to master the methodology and procedures of nutritional assessment and nutritional monitoring.
Brief content:	<ol> <li>Theoretical course:         <ol> <li>Introduction to nutritional anthropology: definition; objective; methods; application of anthropometry in clinical diagnostics.</li> <li>Nutritional anthropometry: methodology; anthropological measurements, indexes and systems of classification.</li> <li>Anthropometric standards: historical data; purposes; methodology of creation and procedures of manipulation with anthropological standards.</li> <li>Nutritional assessment of an individual: doctrine and methodology of nutritional assessment; qualitative and quantitative graduation of nutritional status; principles and procedure of nutritional monitoring.</li> <li>Assessment of nutritional risks in population: methodology of assessment; creating nutritional intervention of the population; creating national programs for prevention. <i>Practical course:</i></li> <li>Taking anthropometric standards and interpretation of the results.</li> <li>Analysis of the nutritional status; body composition; somatotype; growth and body development.</li> <li>Global assessment and gradation of the nutritional status according to anthropometry.</li> <li>Analysis of anthropological and nutritional status according to software programs. <i>Integrative seminar:</i> application of acquired knowledge and skills in actual clinical case.</li> </ol> </li> </ol>
Organization:	Theoretical course: 4 hours Practical course: 6 hours Seminar: 5 hours
Methods of studying	Interaktiv (theoretical) lectures, practical lectures (practical exercises) and integrative seminar.

Textbooks:	1. Pelto HG, Pelto JP, Messer E. Research Methods in Nutritional Anthropology. The United Nations University, 1989.2.WHO Technical Report Series no. 854. Physical status: The use and interpretation of anthropometry. Report of the WHO Expert Committee, 1995.2.2. L. Todorovska: Nutritional anthropology. Textbook for students of medicine, Skopje, 2013.
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1.	Subject	CONTEMPO TREATMEN			ACH IN			
2.	Code	MEDI - 3						
3.	Study Program	General medici	ne					
4.	Organizing Institution (Unit,	UKIM-Faculty of Medicine						
	Institute, Chair, Department)	Department of	neurolo	ogy				
5.	Educational degree (first or second	Integrated cycle	e					
	cycle)							
6.	Study year /semester	Second/IV	7.	Number of credits	1			
8.	Responsible teacher	Ass. Prof. Gord	lana Ki	iteva-Trenchevska				
9.	Preconditions:	None						
11.	<ul> <li>Teaching goals of the study program (competencies):         <ul> <li>Introduction to the basic therapeutic principles in epilepsy treatment according to the guidelines given by the International League Against Epilepsy (ILAE), recommended by the Commission for diagnostic and therapeutic strategy of the ILAE, in accordance with evidence based medicine</li> <li>Introduction to the contemporary diagnostic protocols for epilepsies, classification of epilepsies, choosing the proper treatment for specific types of seizures and epilepsy, as well as the pharmacological properties of different antiepileptic drugs (AEDs)</li> </ul> </li> <li>Contents of the study program: Theoretical</li> </ul>							
	<ul> <li>course:</li> <li>Correct diagnosis and classification of epilepsies: (Commission for diagnostic and therapeutic strategy of the ILAE- revision), therapeutic principles for epilepsies of the American Academy of neurology (AAN)</li> <li>Antiepileptic drugs –first line AEDs -indications and pharmacological characteristics</li> <li>New generation of AEDs indications and pharmacological characteristics</li> <li>Other treatment options for epilepsies – non pharmacological (ketogenic diet, vagus nerve stimulation –VNS, surgery for refractory epilepsies)</li> </ul>							
	<ul> <li>Practical course:</li> <li>-working with patients with different types of seizures and epilepsies</li> <li>-working with patients with focal epilepsies (medical history and treatment specificity)</li> <li>- working with patients with generalized epilepsies (medical history and treatment specificity)</li> <li>- Introduction to the specific features of different diagnostic methods (EEG, CT and MRI of the brain)</li> <li>- project presentations by the students on different subjects:</li> </ul>							
	<ul> <li>project presentations by the students on different subjects:</li> <li>Contemporary diagnostic methods in epilepsies</li> <li>Contemporary classification of epilepsies</li> <li>AEDs (old and new generations)</li> <li>Refractory epilepsy</li> <li>clinical research of antiepileptic drugs</li> </ul>							

12.	Methods of studying: Lectures, PPP and interactive discussions, exercises, working in small										
	groups, seminars										
13.	Total no. of hours:			15 hours							
14.	Distribution of the available time			5	hours	lect	ures,	5	hours	practical	course,
				lał	ooratory	, 5 h	ours pr	oje	ct prese	ntation	
15.	Type of educational15.1Lectures			s-theoretical 5 hours							
	activity course										

				15.2 Practical (laboratory, clinical), seminars, team work		50 hours				
16.	Other	types of activities		16.1	Project assignments		5 hours			
17.	Assess	ment of knowledg	ge:					pe	oints	
	17.1	Tests		Theoretical course					n max. 10 points	
		Final exam				Practical cour	se		nmax. -10 point	
	17.2	Seminar work/pr (presentation: wr			and oral) Final exam				a max. 35 points	
	17.3	Active participat	on			Project preser	ntation:	mi points 3	nmax. 30-45	
					Total			min – max 60 - 100		
		edge assessment				p to 59 points			5 (five) F	
	criteria	:			6	0 to 68 points			6 (six) E	
	(point	s/grade)				9 to 76 points			7 (seven) D	
	<b>U</b>	6					8 (eight) C			
				85 to 92 points					9 (nine) B	
10	Cuitoui	. f 1. (				to 100 points		10 (ten) A		
19.		a for obtaining a ire and taking the f	inal	Conditional criteria for assessment of knowledge: To obtain signature, active presence at theoretical lessons are obliged. To enter the exam, seminar work (writing text and presenting) is						
	needed.					l mark is formed by summarizing the points of certain				
20.	Langua	age of the course		Englis	h					
21.	Method for evaluation of the Anonyn			nonymous student's evaluation of the subject, teachers and llaborators involved in the educational activities						
22.	Literat									
		Mandatory textbo	ooks							
	22.1	Au	ithoi	r		Title		Publisher	Year	
	22.1	1 www.ila	e.org	5						

1.	Subject	EPIDEMIOLOGY MANAGEMENT EPIDEMIOLOGY)	AND HEALTH (MANAGERIAL
2.	Code	MEDI - 98	
3.	Study Program	General medicine	

4.	Organ	nizing Institution ( U	nit	ΠK	IM-Faculty	of Me	dicine			
т.	0	ite, Chair, Departme					lemiology, Bios	statistics	and	
	11150100	ate, Chun, Depurting	<i>)</i>		dical Inform		connotogy, Dio	statistics	unu	
5.	Educa cycle)	ational degree (first o	or secon		egrated cycl					
6.		year /semester		Fift	h/X	7.	Number of credits	1		
8.	Respo	onsible teacher		Pro	f. Dr. Drag	an Dani	ilovski, MD, PhI	)		
9.		nditions:		No	U		, ,			
10.	Teach	ing goals of the stud	y progra	am (comp	etencies):					
		udent should gain bas			ealth care, I	Health I	Management, Ma	anagerial		
		miology and Manager		ibilities						
11.		nts of the study prog	gram:							
		etical course:								
	•	- Improvement of P	ublic He	alth Care						
	•	e-Health ; "Shared Care" in Pu	hlia IIa	1+1						
		e-Health players;		11111						
	•	How to more effect	ive Mana	agement						
	•	Definition and desc			lanagement	t				
	•	Manager responsibi	-	r riouitir i	Tunugennen	•				
	•	<b>e</b> 1		logy in Health management						
	<ul> <li>Epidemiology and planning, management, control, Human Resources, financial</li> </ul>									
		management,	U	U			,			
	•	Integrative decision	making	in Health	Care					
		C	C C							
	Exerc	ises								
12.		ods of studying: Inter	active le	ctures, pra		video er	ntry			
13.		no. of hours:			15 hours					
14.		bution of the availab					, Seimnars: 4 ho	urs		
15.		of educational	15.1	Lectures	-theoretical		11 hours			
	activit	ty		course						
			15.2	Practical			4 hours			
					laboratory,					
					seminars,					
16			161	team wo	ſĸ					
16.	Other	types of activities	16.1							
17.	Assess	Assessment of knowledge:						points		
	17.1 Tests									
	1/.1	5								
	17.1	Tests		Theor	retical cours	se		35-55		
	17.1	5			retical cours	se		35-55 25-45		

20.	Ŭ,	<u> </u>	ne course	activitie English				
21.		Method for evaluation of the		-	nous student's evaluation		hers and	
22.		quality of education			ators involved in the e	ducational activities		
22.	Literat		tory textbooks					
		Ivianua	Author		Title	Publisher	Year	
		1	Epidemiolog		1 Itic	I donsher	I cai	
	Basic Textb 2007 Skopje		-					
	22.1	2	Specialized Epidemiolog Skopje	y 2009				
					Total		50-100	
						knowledge is descript		
19.	Criteria for obtaining a signature and taking the final exam			Conditional criteria for assessment of knowledge: To obtain signature, active presence at theoretical lessons are obliged.				
				To enter is neede	the exam, seminar w d.	ork (writing text and	presenting)	

1.	Subject	FUNDAMENTALS	OF	AESTHETIC
		SURGERY		

2.	Code		ME	DI - 99			
3.	Study Program		Ger	neral medici	ne		
4.	Organizing Institution ( U	nit,		IM-Faculty			
	Institute, Chair, Departme	ent)		•	nic for	Plastic and Recor	nstructive
				gery			
5.	Educational degree (first o	or secon	d Inte	grated cycl	e		
	cycle)				-	1	
6.	Study year /semester		Fift	h/X	7.	Number of	1
						credits	
8.	Responsible teacher		Pro	f. Smilja Tu	Idzaro	va-Gjorgova	
9.	Preconditions:		Nor	ne			
10.	Teaching goals of the study program (competencies):						
	Introduction to surg	gical tech	iniques for	aesthetic of	peratic	ons	
	Practical application	n - work	ing with pa	atients in a s	small r	oom 🛛 Seminar	
	paper						
11.	Contents of the study prog						
	Theoretical hours : lecture						
	Practical hours: live surge	•					
	Practice: Work in aseptic	-					
12.	Methods of studying: Inter	active le	ectures, pra		video e	ntry	
13.	Total no. of hours:			15 hours			
14.	Distribution of the availab	ole time				es, 5 hours prac	
		1		÷	, 5 hou	irs project present	tation
15.	Type of educational	15.1	Lectures-	theoretical		5 hours	
	activity		course				
		15.2	Practical			10 hours	
				laboratory,			
				seminars,			
			team wor	`k			

16.	Other	types of activities 16.1		
17.	Asses	sment of knowledge:		points
	17.1	Tests	Theoretical course tot	min max. al 5-25 points
		Final exam	Practical course	minmax. 20-25 point
	17.2	Seminar work/project (presentation: written and oral)	Seminar pape 35 - 50 points	min max.
	17.3	Active participation		
			Total	min – max 60 - 100
			The student assessment is descriptive.	

19.	Criteria for obtaining a signature and taking the final exam			Conditional criteria for assessment of knowledge:						
				To obtain signature, active presence at theoretical lessons are obliged.						
				To ente is need		ne exam, semina	r wor	k (writing text and	presenting)	
				The final mark is formed by summarizing the points of certain activities.						
20.	Langu	age of th	e course	English	ı					
21.	-		aluation of the	•		ıs student's evalı	ation	of the subject, teac	hers and	
	quality	of educ	ation					cational activities		
22.	Literat									
		Manda	tory textbooks							
			Author	r		Title		Publisher	Year	
	22.1	1	www.ilae.org	5						
	22.1									
1.	Subjec	et				NON PH	IARN	IACOLOGICAL	AND	
					PHARMACOLOGICAL THERAPY ON DIABETES TYPE 2					
2.	Code					MEDI - 98				
3.	Study	Program	m			General medicine				
4.		0	stitution ( Un	it,		UKIM-Faculty of Medicine				
	Institu	ite, Chai	ir, Departmen	nt)						
					diseases ;					
5.	Educational degree (first or second cycle)					Integrated cycle				
6.	Study year /semester				Fifth/X	7.	Number of credits	1		
8.	Responsible teacher				Prof. Tatjana Milenkovikj, PhD MD					
9.	Preconditions:				None					
10.	Teach	ing goal	s of the study	program	n (c	(competencies):				
<u>.</u>										

<ul> <li>-to make a diet plan for the patient with diabetes</li> </ul>
<ul> <li>-to define appropriate amount of physical activity for each patient</li> </ul>
• -to advice adequate oral therapy to patients with diabetes type 2
<ul> <li>-to follow the effect of the advised oral therapy</li> </ul>
• -to combine the oral hypoglycaemias
<ul> <li>-to make an indication for passing on an insulin therapy</li> </ul>

11.	Contents of the study program:								
		etical course:							
		nutrients and their ma				althy nutrition			
	-daily calorie needs, depending on individual needs								
	-basic and advanced counting of carbon hydrates, depending on the individual needs of th								
	patient	groups of oral hypogl	veaemie	os thair ind	lications contra	indications and th	air potential		
	treatm	ent	-		neations, contra		en potential		
		r combination of oral ations for a transfer to			. types of insulir	and insulin regin	ne <b>Practical</b>		
	course				, ., F				
		cises for planning and ent in type 2 diabetes	implem	enting non	pharmacologica	al and pharmacolo	ogical		
12.		ods of studying: Inter	active le	ectures, pra	ctice and video	entry			
13.		no. of hours:			15 hours	U			
14.	Distri	bution of the availab	le time		5 hours lectu	res, 5 hours pra	actical course,		
					laboratory, 5 h	ours project prese	ntation		
15.		of educational	15.1	Lectures	-theoretical	7 hours			
	activit	y		course					
			15.2	Practical	(laboratory,	8 hours			
				clinical),	toom				
				seminars work	, team				
16.	Other	types of activities	16.1	WOIK					
17.	Assess	ment of knowledge:					points		
	17.1	Tests					Theoretical		
				cours	e	14			
		Final exam	Pract		ctical course		26		
	17.2			Fir	Final exam		60		
	17.3	Active participation							
				Total			100		
					Final exam: -The test contains 20 questions. 15 are multiple				
				-The		ons and 5 are fill i			
					-	% from the points			
					exam	I I I I			
				- 5 pr	actical cases wil	l be given to the s	tudent for		
						will have to sugg			
				the right treatment: 50% from the point the final exam					
				The a	ssessment of kr failed the exa	nowledge is descr m	riptive: passed/		
19.	Criteri	a for obtaining a	Cond	litional cri		ment of knowled	ge:		
		are and taking the					_		
	final e	-	To of	To obtain signature, active presence at theoretical lessons are					

				obliged. To enter the exam, seminar work (writing text and presenting) is needed. The final mark is formed by summarizing the points of certain activities.						
20.	Langua	age of th	ne course	English	1					
21.	Metho	d for eva	aluation of the	-	Anonymous student's evaluation of the subject, teachers and					
	quality	of educ	cation	collaborators involved in the educational activities						
22.	Literat	ure								
		Manda	atory textbooks							
			Author	r	Title	Publisher	Year			
	1 Vladimir Serafimov and coworkers		ıd	Intern medicine Skopje						
	22.1	2	Tatjana Milenkovikj.		Education in the treatment of people with diabetes, Skopje	e	2006			

1.	Subject	PAIN THERAPY	
2.	Code	MEDI - 65	
3.	Study Program	General medicine	
4.	Organizing Institution (Unit,	UKIM-Faculty of Medicine	
	Institute, Chair, Department)	KARIL	
5.	Educational degree (first or second	Integrated cycle	
	cycle)		

6.	Study year /semester	Fifth/X	7.	Number of credits	1		
8.	Responsible teacher	Prof. Jasminka	Nance				
9.	Preconditions:	Completed courreanimation	rse in A	Anesthesiology an	d		
10.	<b>Teaching goals of the study program (competencies):</b> Introducing the treatment of acute and chronic pain. Students will learn how to treat pain when it is the primary symptom. They will be introduced with the treatment of painful syndrome, pain evaluation skills, early steps of pain scale, special treatment of various types of pain and proper use of analgesics in treatment of pain within general medicine.						
11.	Contents of the study program: Theoretical course: Pain, clinical implications, types, segmental blocking pain, pain evaluation techniques, regime for pain treatment, strategy for treatment of acute pain, types of analgesics for system analgesia, back pain, the most common types of pain in medical practice, use of regional analgesia for the treatment of acute and chronic pain, treating chronic pain and techniques, blocks, method of application, palliative care and pain						
12.	<b>Methods of studying:</b> Listening, demonstration, practical performance and skills, discussion and consultation with lecturers						
13.	Total no. of hours:	15 hours					
14.	Distribution of the available time	8 hours le	ctures,	Seimnars: 7 hours			

15.	Type of activit	of educational y	15.1		ectures-theoretical ourse	8 hours			
			15.2	Practical (stay at pain clinic),		7 hours			
16.	Other	types of activities	16.1						
17.	Assess	ment of knowledge:		1		points			
	17.1	Tests							
					Theoretical course	10-20			
					Practical course	10-20			
					Final exam	40-60			
					Total	60-100			
					nowledge is descriptive: passed/				
19.	Critori	a for obtaining a	Cond	failed the exam					
19.		a for obtaining a ure and taking the	Conc	Conditional criteria for assessment of knowledge:					
	final ex			To obtain signature, active presence at theoretical lessons are obliged.					
				To enter the exam, seminar work (writing text and presenting) needed.					
			The f activi	mmarizing the points of certain					
20.	Langua	age of the course	Engli	sh					
21.	. Method for evaluation of Anonymo			ym	ous student's evaluatio	n of the subject, teachers and			
	the qua	ality of education	collaborators involved in the educational activities						
22.	Literat	ure							
	22.1 Mandatory textbooks								

				Author	Title	Publisher	Year		
		1 Soljakova M and		Pain in	Literature for				
			others		Anesthesiology and	students at			
					reanimation	Medical Faculty			
		2	Autho	rized		Department of			
			literat	ure of the		Anesthesiology,			
			members at th			reanimation and			
						Intensive care			
Subje	ect			ALLERGIC DISEASES OF THE UPPER RESPIRATORY					
				TRACT					
Study program General med				General media	edicine				
Code MEDI-42				MEDI-42					
Study year By choice				By choice					
Semester By choic				By choice	choice				
Total no. of hours 15				15					

Credits	1					
Type of the subject	Elective					
Preconditions	None					
Conducted by	Department of Internal Medicine					
Responsible teacher	Prof. Dr. Dejan Dokic					
Address	Pulmonary Medicine & Allergology Clinic, Vodnjanska 17, Skopje Phone:+389 2 3239-030; E-mail: <u>dejand@hotmail.com</u>					
Key words	Medical Faculty, elective subject, allergies					
Aims of the study	<ul> <li>Understanding the allergic processes in the upper airways.</li> <li>Knowing the rate of the allergic processes in the upper airways, distribution in regions in the Republic of Macedonia; gender and age groups.</li> <li>Recognizing the signs and symptoms and diagnosing allergic rhinitis and conjunctivitis.</li> <li>Performing prick test, rhinomanometry and measuring the NO in the exhaled air of the nose.</li> <li>Performing nasal and conjunctival provocation tests.</li> <li>Being familiar with the current therapy of the allergic rhinitis and conjunctivitis.</li> </ul>					

Specific recommendations for the course	<b>s</b> The student is obliged to participate actively in all anticipated activities, including the continual assessment of knowledge in order to get a signature.					
	Points for the activities of the Activity type	student: Points				
		Min	Max			
	Theoretical course	10	20			
	Practical course	10	20			
	Continual assessment	25	35			
	Practical exam	15	25			
	Total:	60	100			
	The assessment of knowledge is descriptive (passed/failed the exam)					
	<ul> <li>Theoretical course <ul> <li>Allergic reactions, immediate and delayed; diagnosis and treatment of the allergic diseases</li> <li>Allergic rhinitis-pathogenesis, definition and classification</li> <li>Diagnosis and assessment of rhinitis</li> <li>Therapy for rhinoconjunctivitis</li> <li>Allergic Sinusitis</li> <li>Allergic Conjunctivitis</li> <li>Practical course</li> <li>Continual assessment: performing and interpretation of the allergic diseases results</li> <li>Rhinomanometry: practical application, indications, performing and interpretation of the results</li> <li>Use of the rhinomanometry in the evaluation of nasal allergy</li> <li>Conjunctival provocation test, clinical application and interpretation of the results</li> <li>NO- nitrogen monoxide clinical applications and</li> </ul> </li> </ul>					
Organization	<b>Theoretical course</b> : 10 hours <b>Course</b> : 5 hours					
Methods of studying	Lectures and discussions, pract					
Anticipated results	<ul> <li>Knowledge and understanding:</li> <li>Knowledge and understanding: To achieve basic knowledge in allergy, especially of the upper airway. The lectures include introduction to allergology, epidemiology, clinical presentation, diagnosis and therapy of the allergic rhinitis and conjunctivitis.</li> <li>Key skills:</li> <li>The student will be able to apply in practice the acquired theoretical knowledge.</li> </ul>					

Textbooks	Basic
	• Allergy-S. Holgate
	Essential Allergy-Mygind
	Asthma and Rhinitis-S. Holgate
	• CDs and other materials in electronic form for the
	practical learning.

1.	Subject	ELECTROCARDI	ELECTROCARDIOGRAPHY					
2.	Code	MEDI-58						
3.	Study programme	General medicine						
4.	Institution (Unit, Institute Chair, Department)	Faculty of Medicine, St Cyril and Methodius University, Department of Internal Medicine, Clinic of cardiology						
5.	Degree of education (first or second cycle)	Integrated 6-year stu	Integrated 6-year study					
6.	Study year/semestar	4/VIII	7.	Number of EKTC credits	1			
8.	Responsible teacher	prof. Ljubica Georgievska-Ismail MD, PhD, FESC						
9.	Prerequisite	Passed exam of clinical examination						

10.	The m	ajor aim of the course (competences):				
		To learn how to make a quality electrocardiogram				
		To learn how to recognize a normal electrocardiogram				
		To recognize essential disorders in conduction of impulses				
	□ To recognize atrial or ventricular arrhythmia					
	□ To recognize myocardial ischemia/ infarction					
	□ To recognize electrocardiographic indexes of structural cardiac disorders					
		To recognize rhythm on electro-stimulator				
		To recognize conditions that require urgent treatment				
11.	Short contents (excerpt) of the course Theorethical					
	lecture	29:				

	<ul> <li>Electrical system of conducting and cardiac electro-physiology</li> <li>Basic principles of electrocardiography and electrocardiogram (ECG paper, measuring, heart frequency, electrical axis, source of mistakes during the making of ECG)</li> </ul>								
	<ul> <li>Normal electrocardiogram, access to interpreting</li> <li>Normal sinus rhythm and sinus rhythms</li> </ul>								
		Disorders in conduc							
		Rhythm disorders							
		Junctional							
		Ventricular							
		Myocardial ischemi							
	□ Everci	Atrial and ventricula sing and interpreting							
	LACICI	sing and interpreting (		uocalulogia	111				
12.		ds of studying: ethical (interractive) te	eaching d	uring the lect	tures and exercises	(practical teachi	ng)		
13.	Total a	available time:				30 hours			
14.	Organization of the course 15 hours lectures and exercise 15 hours home learning Teaching will take place after working hours, four consecutive days in the week								
15.		of teaching	15.1	Interactive	teaching	9 hours			
	activit	ies	15.2	Exercises		6 hours			
16.	Other	forms of activities	16.3	Home learn	ning	15 hours			
17.	Metho	ds of assessement							
	17.1.	Quizzes					12-20 points		
	Final exam-practical The student is obliged to recognize and describe 60% of the electrocardiogram that have been given to him						30-50 points		
	17.3 Activity 18-30 points								
18.	Gradi	ng criteria		L	ess than 59 points		5 (five) (F)		
				fro	om 60 to 68 points		6 (six) (E)		
				fro	om 69 to 76 points		7 (seven) (D)		
		from 77 to 84 points 8 (eight) (C)							

1			0.00.00			
			from 85 to 92 points	9 (nine) (B)		
			from 93 to 100 points	10 (ten) (A)		
19.	Requirement for signature a taking the final exam	nd	In order to obtain a signature and to enter the final exam, a student is required to attend the practical and lecture classes and to optain a minimum score The grade for the course is formed according to the rating table, based on the sum of the points from all the activities, and the continuous checks			
20.	Language of instruction		English			
21.	Method of monitoring the quality of teaching process		Student anonymous evaluation of t collaborators participating in the te	5		
22.	Teaching aids Ba		sic:			
			Georgievska-Ismail Ljubica i sor. AzBuki, 2008	Elektrokardiografija. Skopje:		
			CDs and other electronic materials	for exercising		

1.	Subject	WRIST AND	HAND	SURGERY		
2.	Code	MEDI-81				
3.	Study Program	General medici	ne			
4.	Organizing Institution (Unit, Institute,	UKIM-Faculty	of Me	dicine Cathedra		
	Chair, Department)	for Surgery, Sk	opje			
5.	Educational degree (first or second					
	cycle)					
6.	Study year /semester	By choice/	15.	Number of	1	
		summer		credits		
8.	Responsible teacher	Prof. Viktor Kamiloski MD, PhD				
9.	Preconditions:	None				
10.	Teaching goals of the study program (co	ompetencies):				
	• Students will be able to examine a patient with injuries of the hand and wrist, to refer					
	him/her to different department for different analyses and to interpret the findings and					
	establish a diagnosis					
	• Students will be acquainted with the most common procedures of surgical treatment,					
	and will be able to refer patients v	with wrist and ha	nd trau	ma to surgical trea	tment.	

11.	Contents of the study program: Theoretical and practical courses:								
	<ul> <li>Theoretical course: lectures / seminars</li> <li>History, historical perspectives of wrist and hand injuries, epidemiology and statistics</li> <li>Applied surgical anatomy of the wrist and hand</li> <li>Diagnosis and diagnostic procedures of wrist and hand injuries</li> <li>Operating room, surgical sepsis and anti-sepsis of wrist surgery, regional block anesthesia, Riva and local anesthetic technique</li> <li>Fractures of the distal radius, classification systems</li> <li>Fractures of the distal una, classification systems</li> <li>Tests for anatomical assessment of distal radius fracture</li> <li>Surgical techniques for fractures of the distal radius</li> <li>Injuries DRUJ: classification, diagnosis and treatment</li> <li>Fractures and dislocation carpus</li> <li>Surgical anatomy and kinetics of meta carpal bones and phalanges of the hand. Assessment, diagnosis and surgical treatment</li> <li>Injury to the soft tissues and tendons of the hand with reconstruction. Surgical approach and operative techniques with possible complications.</li> <li>Infections of the wrist and hand area and deep compartmental inflammation. Compressive neuropathy syndrome of medians, ulnaris radialis and interdigital nerves. Algodystrophy - diagnosis and treatment</li> <li>Modern rehabilitation programs and exercises of the wrist and hand injuries</li> </ul> Practical course: <ul> <li>Graphic templates and cadaveric dissections of surgical approaches</li> <li>Surgical techniques for fractures of the distal radius (K-pins, external fixation, dorsal volar access, FSF – fragment specific fixation)</li> <li>Fractures and dislocations of carpus. Diagnosis and surgical treatment of scaphoid bone fracture. Matti - Russe surgical technique. Treatment of fractures and luxation of os lunatum (lunar and perilunar luxations). Modern surgical treatment of scaphoid bone fracture. Matti - Russe surgical technique. Treatment of fractures of os capitatum, os hamatum, tirquetrum, trapezium and pisiforme.</li></ul>								
12.	Methods of studying: Inter	active le	ctures consultir	ng clinic ar	d operative	room practice			
13.	Total no. of hours:			nours		room practice .			
13.	Distribution of the availab	le time			cal lecture,				
1.1.	Distribution of the available	ne unie	4 hc	ours semina	ars,				
				_	ical teaching				
15.	Type of educational	15.1	Lectures-theor	retical	1 hours				
	activity	15.2	course Practical (1	laboratory,	14 hours				
		clinical),	1a001a101y,	14 110015					
	seminars, team								
	work								
16.	Other types of activities	16.1	Project assign	ments	hours				
		Individual task	KS	hours					
		16.3	Home studying	g	20 hours				
17.	Assessment of knowledge:					points			
	17.1 Tests		Practical as	ssessment		min max. total 10-20 points			

		Final e	xam		Oral exam		-max. 40 points		
	17.2	Seminar work/project				n max.			
	17.2		ntation: writte		1) Seminar works points		20- 30		
	17.3	Active	participation		Theoretical course		nmax.		
18.	criteria	a: with wrist interpretat		ent of knowledge by pra st and hand injury, a pro ation of the findings and	Theoretical coursepoints 5-10nt of knowledge by practical examination of a patientand hand injury, a proposal for diagnostics,ion of the findings and proposals for further treatmentnt assessment is descriptive.				
19.	signature and taking the final exam			I To obt obliged To ento needed	The final mark is formed by summarizing the points of certain				
20.	Langu	age of th	e course	Englis					
21.	Ç	Ç	aluation of the	Ŭ	mous student's evaluation	on of the subject, teach	ers and		
	quality	of educ	ation	collabo	prators involved in the ed	lucational activities			
22.	Literat	ure							
		Manda	tory textbook	as			-		
			Author		Title	Publisher	Year		
	1 Jupiter J, Rin D		Ma	nd and wrist, AO nual of fracture nagement	Thieme	2005			
	22.1	2	Fernandez I Jupiter JB	rad app	ctures of the distal ius. A practical roach to management. ond edition.	Springer, New York,	2002		
		3	Касапинов К, Камилос В.		асификации во уматологијата		2017		

1.	Subject	ABDOMINAL ULTRASONOGRAPHY							
2.	Code	MEDI							
3.	Study program	General medicine							
4.	Institution (Unit, Institute, Chair, Department)	Faculty of Medicine, Ss Cyril and Methodius University, Departmen of Internal Medicine, Clinic of gastroenterohepatology							
5.	Degree of education (first or second cycle)	Integrated 6-year study							
6.	Study year/semester	VII,VIII7.Број на ЕКТС1semesterкредити1							
8.	Responsible teacher	Prof. d-r Rozalinda Popova Jovanovska							
9.	Preconditions	none			none				

10.	The course program is intended			• 1 1. •				
	<ul> <li>The major aim is to learn the basics of abdominal ultrasonography including:</li> <li>The principles and how to perform abdominal ultrasonography.</li> <li>The first part is on anatomy, i.e. the recognition of the large abdominal organs and structures with emphasis on the liver, pancreas, gall bladher, biliary tree spleen, kidne and major abdominal blood vessels.</li> <li>The second part will be in pathology, i.e. the most frequent hepatic, biliary tree, gall bladder and pancreatic abnormalities.</li> <li>Students will study on a real ultrasonography machine and complete abdominal ultrasound will be performed on patients.</li> <li>After the course, students will be able to recognize the abdominal organs (e.g. liver, g bladder, kidneys, spleen), and the major abdominal vessels and liver vessels (portal vein, hepatic artery, liver veins).</li> </ul>							
	<ul><li>the abdominal organs.</li><li>After the course, studen</li></ul>	ts will ha	ave knowledge of normal ultras ave knowledge of ultrasound fin odominal organs (liver, gallblad	ndings in same				
11.	<ul> <li>Theoretical course:</li> <li>Basic principles of abdominal ultrasonography and performing ultrasound examination.</li> <li>Indications for ultrasonographic examination.</li> <li>Ultrasonographic findings of the liver, gallbladder, biliary tree and pancreas.</li> <li>Ultrasonographic findings of diffuse and focal liver diseases, gallbladder, bile ducts and pancreas abnormalities.</li> <li>Clinical Practice: <ul> <li>Performing ultrasonographic examination.</li> <li>Interpretation of ultrasonographic findings in healthy subjects.</li> <li>Interpretation of ultrasonographic findings in pathological conditions / diseases of the liver, gallbladder, bilary tract, pancreas, spleen, large vessels.</li> </ul> </li> </ul>							
12.		y work o	res and discussion of the Departments of Ultrasoum casound examination of the pati					
13.	Total available time:		15 classes					
14.	Organization of the course		15 classes – hours of exerci Teaching will take place du mentor's supervision					
15.	Forms of teaching activities	15.1.	Lectures - theoretical course	3 classes				
		15.2.	Practical course, Seminars	12 classes				
16.	Other forms of activities	16.1.	Team building Practice	12 classes				
		16.2.	Individual tasks	/				
		16.3.	Individual (home) learning	/				
		1		1				

	17.1.	Practice	50 - 80 points			
	17.2.	Attendance	5 - 10 points			
	17.3.	Activity		5 - 10 points		
18.	Gradin	g criteria	Less than 59 points	5 (five) (F)		
	(points	s / grade)	from 60 to 68 points	6 (six) (E)		
			from 69 to 76 points	7 (seven) (D)		
			from 77 to 84 points	8 (eight) (C)		
			from 85 to 92 points	9 (nine) (B)		
			from 93 to100 points	10 (ten) (A)		
19.	<b>^</b>	ement for signature and	Conditional criteria:			
	taking	the final exam	In order to obtain a signature and to enter the final exam,			
			a student is required to attend the practical and lecture			
			classes and to win a minin	num score		
			The grade for the course i	e is formed according to the rating		
			table, based on the sum of	of the points from all the		
			activities, and the continu	ous checks		
20.	Langua	age of instruction	English			
21.	Metho	d of monitoring the quality of	Student anonymous evalu	ation of the subject, the teacher		
	teachir	eaching process and collaborators participating in the teaching				