

## ELECTIVE SUBJECTS

Number:1

Attachment 3		Integrated cycle of studies – Subject program			
1.	Subject	ANATOMICAL FEATURES OF VERTEBROBASILAR SYSTEM			
2.	Code	MEDI 01			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Anatomy			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies			
6.	Academic year/semester	Year	II (second)	Semester	IV (fourth)
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Associate professor Ace Dodevski, PhD, MD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Anatomy 3 exam passed. The student can attend the final oral exam if he/she prepared an integrative seminar in a written form and presented it with oral presentation and interactive discussion of the colleagues and the responsible professor.			
11.	Subject program goals (competences) and study results:	The student should acquire basic knowledge about the morphological and topographic features of the vertebrobasilar system and its branches, as well as the clinical significance of their anatomical variations.			
12.	Subject content in details by chapters and units, with study results for every chapter	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Morphological characteristics of the vertebrobasilar system and its branches</li> <li>• Anatomical variations of the vertebrobasilar system</li> <li>• Clinical significance of the variations of the vertebrobasilar system</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Making dissection preparations of brain with vertebrobasilar system</li> <li>• Morphometric analysis of anatomical brain preparations with vertebrobasilar system</li> <li>• Comparative analysis of the morphometric characteristics of the vertebrobasilar system and its variations on anatomical preparations, CT and MRI images</li> <li>• Practical teaching:                             <ul style="list-style-type: none"> <li>• Selected part of vertebrobasilar system</li> </ul> </li> </ul>			
13.	Interconnection between subjects	Related to all subjects in the study program			

14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study				
15.	<b>Total available time frame</b>	30				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15		
18.	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical, practical classes and seminars and earn a minimum number of points. In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation. The grade for the subject is formed according to the grade table, and based on the sum of the points from all activities, continuous tests and the final exam.				
19.	<b>Methods of assessment</b>					
	19.1.	Tests: points			15 - 30	
	19.2.	Seminar paper/project, written and oral presentation: points			15 - 30	
	19.3.	Final exam: points			21 - 40	
20.	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject and the teachers and associates who participate in teaching				
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	George B, Bruneau M, Spetzler RF	Pathology and surgery around the vertebral artery	New York: Springer	2011
		2.	Berguer R	Function and surgery of the carotid and vertebral arteries	Philadelphia: Lippincott Williams & Wilkins	2013
3.	Langdon JD.	Gray's anatomy	London: Elsevier, Churchill - Livingstone	2005		

		Additional literature				
		Number	Author	Title	Publisher	year
22.2.	1.	Bradac GB	Cerebral angiography Normal anatomy and vascular pathology	New York: Springer	2014	
	2.	Marinkovic S, Milisavljevic M, Antunovic V.	Brain and spinal cord arteries: Anatomical and clinical characteristics.	Beograd: Bit inzenjering	2001	
	3.	Sachinder SH.	Extracranial carotid and vertebral artery disease.	New York: Springer	2018	

Number:2

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>CLINICAL ANATOMY OF THE URINARY SYSTEM</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 02</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Anatomy			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Professor Biljana Trpkovska, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed Anatomy 2 The student can attend the final oral exam if he/she prepared an integrative seminar in a written form and presented it with oral presentation and interactive discussion of the colleagues and the responsible professor.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	To provide knowledge about the morphological, and topographical characteristics and structure of the urinary system. To provide knowledge about anatomical and clinical aspects of the urinary system.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Morphological, topographic characteristics, structure, and clinical knowledge of the kidneys.</li> <li>• Morphological, topographic characteristics, structure, and clinical knowledge of the urinary tract.</li> <li>• Anatomical structures, internal macrostructure, and microstructure of the kidneys.</li> </ul>			

		<ul style="list-style-type: none"> <li>Anatomical and clinical knowledge of the ureter.</li> <li>Anatomical and clinical knowledge of the glandule suprarenal.</li> <li>Area of vascularization and innervation of the urinary system.</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>Presentation of the morphological, topographical characteristics and structure of the urinary system.</li> <li>Seminars</li> <li>Selected part of the urinary system.</li> </ul>			
13.	<b>Interconnection between subjects</b>	Theoretical lessons, practical lessons, seminars			
14.	<b>Description of the subject's study and working methods in detail</b>	15 hours of lectures, exercises, seminars 15 hours of home study			
15.	<b>Total available time frame</b>	30 hours			
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5		
		16.2. Practical lessons (laboratory, auditory), seminars, teamwork: hours	10		
		16.3. Practice: hours			
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours			
		17.2. Individual tasks: hours			
		17.3. Studying at home: hours	15		
18.	<b>Requirements for signature</b>	Active part in theoretical and practical lessons, seminars			
19.	<b>Methods of assessment</b>				
	19.1.	Tests: points			
	19.2.	Seminar paper/project, written and oral presentation: points Active participant/theoretical/ practical lessons	25-35, 20-40		
	19.3.	Final exam: points	15-25		
20.	<b>Grading criteria (points/grade)</b>	Up to 50 points	5 (five) (F)		
		From 51 to 60 points	6 (six) (E)		
		From 61 to 70 points	7 (seven) (D)		
		From 71 to 80 points	8 (eight) (C)		
		From 81 to 90 points	9 (nine) (B)		
		From 91 to 100 points	10 (ten) (A)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject and the teachers and associates who participate in teaching			
22.	<b>Literature</b>				
	22.1.	<b>Mandatory literature</b>			
		Number	Author	Title	Publisher

		1.	Drake RL, Vogl AW, Mitchell AWM	Gray's Anatomy for Students	New York: Elsevier	2019	
		2.	Halliday NL, Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023	
	22.2.	<b>Additional literature</b>					
		Number	Author	Title	Publisher	year	
		1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013	
2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019			

Number:3

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>CLINICAL ANATOMY OF THE SPINE</b>			
2.	<b>Code</b>	<b>MEDI 03</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Anatomy			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Niki Matveeva, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Completed course and passed exam in Anatomy 1. The student can attend the final oral exam if he/she prepared an integrative seminar in a written form and presented it with oral presentation and interactive discussion of the colleagues and the responsible professor.			
11.	<b>Subject program goals (competences) and study results:</b>	Obtaining wider knowledge about: anatomical variations and congenital malformations of the spine; normal spinal curvatures and their disorders; morphostructural and degenerative changes of the spine during the process of aging relevant for the clinical practice.			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Ch I Anatomical variations and congenital malformations of the spine, clinical significance Ch II Normal spinal curvatures and spinal curvatures disorders			

		Ch III Morphostructural and degenerative changes of the spine during the process of aging relevant for the clinical practice.		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>Anatomical variations and congenital malformations of the spine</li> <li>Normal spinal curvatures and their disorders</li> <li>Morphostructural and degenerative changes of the spine during the process of aging relevant for the clinical practice (degenerative changes of the intervertebral discs, vertebral bodies and zygapophyseal joints, disc herniations and degenerative spinal stenosis).</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>presentation of the rich osseous collection of the Institute</li> <li>case presentations of patients who underwent MR examinations of the spine</li> </ul> <p><b>Seminar work:</b> chosen parts of the theoretical course</p> <p><b>Methods of studying:</b> interactive theoretical lectures and practical lectures and integrative seminars</p>		
15.	<b>Total available time frame</b>	30 classes		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	Practical lectures- 10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	In order to get a signature, the student is obligated to attend all the lectures (theoretical and practical), and seminars for which the student earns certain minimum number of points.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points	/	
	19.2.	Seminar paper/project, written and oral presentation: points	min.-max. 25-45	
	19.3.	Final exam: points	Oral exam scores	min-max 26- 55
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)

		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)			
21.	<b>Methods of monitoring the quality of the teaching process</b>	After the completion of the study program of the elective subject/course, an anonymous evaluation is being performed.				
22.	Literature					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2023
	2.	Drake RL, Vogl AW, Mitchell AWM	Gray's Anatomy for Students	New York: Elsevier	2019	
	22.2.	Additional literature				
		Number	Author	Title	Publisher	year
1.		Bogduk N.	Clinical Anatomy of the Lumbar Spine and Sacrum	Edinburgh-New York: Elsevier-Churchill Livingstone	2005	

Number:4

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>CLINICAL ANATOMY OF THE DIGESTIVE SYSTEM</b>			
2.	<b>Code</b>	<b>MEDI 04</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Anatomy			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7.	<b>ECTS credits</b>	1			

8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Assoc. Prof. Elizabeta Chadikovska, PhD, MD		
9.	<b>Language of the study</b>	English		
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam Anatomy 2. In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation.		
11.	<b>Subject program goals (competences) and study results:</b>	Objectives of the subject program (competencies): <ul style="list-style-type: none"> <li>• Study of the macroscopic structure of the human body</li> <li>• Study of the organs that are part of the digestive system</li> <li>• Clinical significance of the digestive system</li> <li>• • Use of professional terminology</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Content of the subject program: Theoretical course: <ul style="list-style-type: none"> <li>• Importance of digestive system</li> <li>• Morphological characteristics of the organs of the digestive system</li> <li>• Ratios of the organs of the digestive system</li> <li>• Vascularization and innervation of organs from the digestive system</li> <li>• The digestive system and clinical connection;</li> </ul> Practical course: <ul style="list-style-type: none"> <li>• Presentation of an organ from the digestive system;</li> <li>• Seminar work: for a selected part of the digestive system.</li> </ul>		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical, practical classes and seminars and earn a minimum number of points.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points	Min. 15- max. 25	
	19.2.	Seminar paper/project, written and oral presentation: points	Min. 25- max. 35	

	19.3.	Final exam: points	Theory 10-20 Practical part 10-20			
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process Student anonymous evaluation for the subject, teachers and associates participating in the teaching.</b>		Student anonymous evaluation for the subject, teachers and associates participating in the teaching.			
22.	<b>Literature</b>					
	Mandatory literature					
		Number	Author	Title	Publisher	Year
	22.1.	1.	Drake RL, Vogl AW, Mitchell AWM	Gray`s Anatomy for Students	New York: Elsevier	2019
		2.	Halliday NL,Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023
	Additional literature					
		Number	Author	Title	Publisher	year
	22.2.	1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013
		2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019

Number:5

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
1.	<b>Subject</b>	<b>COMPLEMENTARY MEDICINE</b>
2.	<b>Code</b>	<b>MEDI 05</b>
3.	<b>Study program</b>	General Medicine
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of anesthesiology with reanimation

5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh (XI)
7	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Jasminka Nancheva PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Completed course in Anesthesiology and reanimation. In order to take the exam, the student needs to attend the theoretical, practical classes and seminars			
11.	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>• Introduces the student to the alternative treatment techniques of the allopathic techniques from Western medicine, which he studies with the agricultural ones during his studies.</li> <li>• The student should become familiar with the basic principles of traditional (Chinese) theories of the mechanism of action of acupuncture, more precisely understanding the methodology of acupuncture as a traditional method in the symptoms and therapy of diseases.</li> <li>• The student should gain knowledge of the basic practical knowledge in the acupuncture technique.</li> <li>• The student should become familiar with the basic laws and principles of homeopathic treatment, the methodology of taking the homeopathic anamnesis as a supplement to the allopathic (western) anamnesis and prescribing therapy.</li> <li>• The student should acquire knowledge about the use of acute homeopathic medicines in everyday medicine.</li> <li>• The student should gain knowledge of the basic practical in taking the homeopathic interview. Using a repertorium (computer).</li> </ul>			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ol style="list-style-type: none"> <li>1. Acupuncture <ul style="list-style-type: none"> <li>• Modern (scientific) and traditional (Chinese) theories of the mechanism of action of acupuncture.</li> <li>• Meridians and acupuncture points</li> <li>• Relationship between acupuncture points and muscles</li> <li>• Electrotherapy, electropuncture, electroacupuncture</li> <li>• Acupuncture therapy by systems</li> </ul> </li> <li>2. Homeopathy <ul style="list-style-type: none"> <li>• Laws and principles of homeopathic treatment</li> <li>• Three levels of the human being</li> <li>• The concept of vital force</li> <li>• Basic laws of homeopathic treatment</li> <li>• Dynamic interaction of diseases</li> <li>• Basics of homeopathic analysis</li> <li>• Prescribing medicines (acute homeopathic medicines)</li> </ul> </li> </ol> <p><b>Practical course:</b></p>			

		<ul style="list-style-type: none"> <li>Mastering clinical skills and practical application of acquired theoretical knowledge of acupuncture and homeopathy.</li> </ul>				
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program				
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, seminars, practical trainings				
15.	<b>Total available time frame</b>	30 hours				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10hours		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15 hours		
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical, practical classes and seminars and earn a minimum number of points.				
19	<b>Methods of assessment</b>					
	19.1.	Tests: points			18 - 30	
	19.2.	Seminar paper/project, written and oral presentation: points			8 - 12	
	19.3.	Final exam: points			28 - 40	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Continuous evaluation through the whole process of teaching (theoretical-interactive and practical). Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities.			
22.	<b>Literature</b>					
	Mandatory literature					
		Number	Author	Title	Publisher	Year
	22.1.	1.	Kaptchuk T.	The Web That Has No Weaver: Understanding Chinese Medicine.	Chicago: Mc Graw-Hill	2000

		2.	Deadman P, Baker K.	A Manual of Acupuncture	Los Angeles: Sung In Printing America Inc	1998
	22.2	Additional literature				
		1.	Vitulkas G	The doctrine of homeopathy	Advita	2005
		2.	Vitulkas G	Homeopathy – medicine for the new millennium	Adiviva	2007
		1.	Dervisevic E	Acupuncture	Beograd: Naucna kniga	2001

Number:6

Attachment 3		Integrated cycle of studies – Subject program			
1.	Subject	<b>DISASTER MEDICINE</b>			
2.	Code	<b>MEDI 06</b>			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of anesthesiology with reanimation			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies			
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh (XI)
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Prof. Kuzmanovska Biljana, MD, PhD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam in anesthesiology and reanimation. In order to take the final exam, the student needs to attend theoretical, practical teaching and seminars and win minimum points.			
11.	Subject program goals (competences) and study results:	<ul style="list-style-type: none"> <li>• Introduction with the concept of medicine in disaster conditions.</li> <li>• Prehospital organization of the medical and paramedical systems in major accidents.</li> <li>• Disaster assessment and mobilization of relief teams.</li> <li>• Pre-hospital care of victims, triage and first aid.</li> <li>• Chemical, biological and radiological decontamination.</li> <li>• Evacuation from the accident site.</li> <li>• Transport to the hospital.</li> <li>• Organization of hospital care for a large number of mass victims accidents.</li> </ul>			

12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Organization of prehospital medical and paramedical systems care of victims of mass accidents.</li> <li>• The role of medical teams in the first hour of the disaster, the establishment of emergency medical posts.</li> <li>• Initial Disaster Assessment and Triage: – <ul style="list-style-type: none"> <li>- in the first minutes after the disaster</li> <li>- within an hour of the disaster</li> <li>- in the period of 4-6 hours, first 24 hours</li> <li>- in the period from the second to the seventh day after the disaster.</li> </ul> </li> <li>• Assessment of the injured, primary examination, secondary examination, triage.</li> <li>• Algorithm for the procedures during the primary examination.</li> <li>• Trauma score, Glasgow coma score, pediatric trauma score.</li> <li>• Algorithm for triage of the injured requiring immediate treatment.</li> <li>• Algorithm for triage by secondary examination, secondary priority of procedures.</li> <li>• Algorithm for the triage of the injured with the possibility of a delayed procedure.</li> <li>• Algorithm for dead or extremely critical with possibility of dying.</li> <li>• Specifics of prehospital care during chemical and biological weapon attacks.</li> <li>• Biological and chemical decontamination.</li> <li>• Management of mental detheorized patients.</li> <li>• Specifics of pre-hospital care during nuclear disasters.</li> <li>• Radiological decontamination.</li> <li>• Transport (types)</li> </ul> <p><b>Practical lessons:</b></p> <ul style="list-style-type: none"> <li>• Practical exercises on phantom dolls - resuscitation according to ABC principles.</li> <li>• Immobilization of the spine.</li> <li>• Immobilization of limbs.</li> <li>• Primary hemostasis.</li> <li>• Transport of victims.</li> <li>• Placement of an intravenous line.</li> <li>• Procedures for decontamination of victims and personal protection.</li> </ul>
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theoretical), demonstration, practical performing and acquiring skills, discussion with the teachers of the teaching, seminar paper.
15.	<b>Total available time frame</b>	30 hours
16.	<b>Forms of teaching activities</b>	16.1.                      Lessons – theoretical lessons, hours      5 hours

		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours		
		16.3.	Practice: hours			
17.	Other forms of activities	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15 hours		
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend theoretical, practical teaching and seminars and win minimum points.				
19	<b>Methods of assessment</b>					
	19.1.	Tests: points		21 - 35		
	19.2.	Seminar paper/project, written and oral presentation: points		2 - 4		
	19.3.	Final exam: points	Oral	24 - 40		
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities.				
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Ciottone GR.	Ciottone's Disaster Medicine	New York: Mosby Elsevier	2006
		2.	Hogan DE.	Disaster Medicine	Philadelphia: LWW	2002
	22.2.	Additional literature				
		Number	Author	Title	Publisher	year
		1.	Andonov V	Urgent medicine practical procedures	Laurens Coster	2001
2.		Teaching materials on English for students prepared by the faculty				

Number:7

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>INTENSIVE CARE</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 07</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of anesthesiology with reanimation			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Tenth (X)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Andrijan Kartalov, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam in anesthesiology and reanimation. To enter the exam, seminar work (writing text and presenting) is needed.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Teaching goals: <ul style="list-style-type: none"> <li>• The student will be acquainted with the basics of intensive care, critically ill patients and the required skills for their treatment</li> <li>• Elements of cardio-pulmonary resuscitation</li> <li>• The student will be acquainted with the principles of care and intensive treatment of the critically ill patients and with the skills needed in intensive care medicine</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical and practical courses:</b> <ul style="list-style-type: none"> <li>• Intensive care medicine, organization of the intensive care unit, monitoring of the vital parameters</li> <li>• Critical conditions as a result of hypoxia</li> <li>• Critical conditions caused by circulatory disorders</li> <li>• Critical conditions with disorders of the body fluids homeostasis</li> <li>• Critical conditions and consciousness disorders</li> <li>• Critical conditions caused by digestive system disorders</li> <li>• Critical conditions caused by trauma</li> <li>• Critical conditions caused by head injuries</li> <li>• Critical conditions caused by chest/thorax injuries</li> <li>• Critical conditions caused by abdominal emergencies</li> <li>• Critical conditions caused by cardiac arrest in pregnant women</li> <li>• Critical conditions in cases of intoxications, burns, terminal extremes, drowning, electric shock</li> <li>• Artificial ventilation, central vein pathways, ports</li> </ul>			

13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program				
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, seminars, practical trainings				
15.	<b>Total available time frame</b>	30 hours				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours			5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours			10 hours
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours			15 hours
18	<b>Requirements for signature</b>	To obtain signature, active presence at theoretical course is obliged (12-20 points).				
19	<b>Methods of assessment</b>					
	19.1.	Tests: points			Written test Total 12-20 points	
	19.2.	Seminar paper/project, written and oral presentation: points			Seminar works Total 24- 40 points	
	19.3.	Final exam: points			Oral exam Total 12-20 points  The final mark is formed by summarizing the points of certain activities.	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Anonymous evaluation by the students of the subject, the teachers and the collaborators who participate in the education			
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year

	1.	Marino PL	The ICU Book	Philadelphia: LWW	2013
	2.	Hall JB, Schmidt GA.	Critical care	Chicago: Mc Graw Hill, Medical	2006
	3.	Andrew D. Bersten, and Neil Soni	Oh's Intensive Care Manual	New York: Elsevier	2013
	Additional literature				
	Number	Author	Title	Publisher	Year
	1	Soljakova M. et al.	Anesthesiology and reanimation	Skopje: Biographica	2007

Number:8

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>PAIN THERAPY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 08</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of anesthesiology with reanimation			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Tenth (X)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Jasminka Nancheva PhD. MD.			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Completed course in Anesthesiology and reanimation			

11.	<b>Subject program goals (competences) and study results:</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.		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical and practical course:</b> 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.		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Listening, demonstration, practical performance and skills, discussion and consultation with lecturers.		
15.	<b>Total available time frame</b>	15 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	To obtain signature, active presence at theoretical lessons are obliged.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		10 - 20
	19.2.	Seminar paper/project, written and oral presentation: points		10 - 20
	19.3.	Final exam: points		40 - 60
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)
			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)

21.	<b>Methods of monitoring the quality of the teaching process</b>	Continuous evaluation through the whole process of teaching (theoretical-interactive and practical). Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Morgan E, Mikail M, Marej M	Clinical Anesthesiology	Chicago: McGraw Hill	2013
		Additional literature				
		Number	Author	Title	Publisher	Year
		1.	Soljakova M et al.	Pain in Anesthesiology and reanimation	Skopje: Biographica	2007
2.	Teaching materials on English for students prepared by the faculty					

Number:9

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>ENZYMES – MARKERS FOR DIAGNOSIS AND PROGNOSIS OF DISEASES</b>			
2.	<b>Code</b>	MEDI 09			
3.	<b>Study Program</b>	General Medicine			
4.	<b>Institution (Unit, Institute, Chair, Department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Biochemistry and Clinical Biochemistry			
5.	<b>Degree of education (first or second cycle)</b>	Integrated 6 – year studies			
6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7.	<b>ECTS credits</b>	1			
8.	<b>Professors (when more professors, responsible professor is assigned)</b>	Prof. Sonja Topuzovska, MD, PhD			
9.	<b>Language of the study</b>	English			

10.	<b>Preconditions for attending the classes and taking subject's exam</b>	Signature from Biochemistry 1 and Biochemistry 2. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.		
11.	<b>Subject program goals (competences) and study results:</b>	<b>Aims of the course program (competences):</b> <ul style="list-style-type: none"> <li>• Teaching/studying of enzymes important for medical diagnostic practice</li> <li>• Demonstration and practical work on methods for determination of enzyme activity</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Contents of the course program:</b>  <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Principles of enzymology</li> <li>• Isoenzymes and their significance</li> <li>• Methods for determination of enzymes</li> <li>• Enzymes important for diagnosis and prognosis of cardiovascular diseases</li> <li>• Enzymes important for diagnosis and prognosis of hepatic diseases</li> <li>• Enzymes in the neonatal period</li> <li>• Enzymes as tumor markers</li> </ul> <b>Practical course:</b> <ul style="list-style-type: none"> <li>• Tests for determination of enzymes and isoenzymes, continual, discontinual, electrophoretic</li> </ul> <b>Seminar paper:</b> Selected chapters from enzymology		
13.	<b>Interconnection between subjects</b>	Related to all other subjects		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theory), practical exercises, seminar paper		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1	Lessons – theoretical lessons, hours	5 hours
		16.2	Practical lessons (laboratory, auditory), seminars, team work: hours	Exercises 5 hours Seminars 5 hours
		16.3	Practice: hours	
17.	<b>Other forms of activities</b>	17.1	Project tasks: hours	
		17.2	Individual tasks: hours	
		17.3	Studying at home: hours	15 hours
18.	<b>Requirements for signature</b>	<b>Conditional criteria:</b> 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.		

		Theoretical lessons 4 -10 points Practical lessons 4- 10 points				
<b>19</b>	<b>Method of assessment</b>					
	<b>19.1</b>	<b>Tests: points</b>	min.-max. 12 - 20			
	<b>19.2</b>	<b>Seminar paper/project</b>  <b>(presentation: written and oral)</b>	Seminar paper points	min.- max. points 25 - 35		
	<b>19.3</b>	<b>Final exam: points</b>	Oral exam points	min.-max. 15 - 25		
<b>20.</b>	<b>Grading criteria</b>  <b>(points/grade)</b>		up to 59 points	5 (five) F		
			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		
<b>21.</b>	<b>Method of monitoring the quality of the teaching process</b>	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process				
<b>22.</b>	<b>Literature</b>					
	<b>Mandatory literature</b>					
		Author	Title	Publisher	Year	
	<b>22.1.</b>	<b>1.</b>	Copeland RA	Enzymes- A Practical Introduction to Structure, Mechanism, and Data Analysis. Second edition	London: Willey	2020
		<b>2.</b>	Hawcroft DM	Diagnostic enzymology	London: Willey	1987
	<b>Additional literature</b>					
		Author	Title	Publisher	Year	
<b>22.2.</b>	<b>1.</b>	Majkic N.	Clinical enzymology	AID Praktikum	1993	

Number:10

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
<b>1.</b>	<b>Subject</b>	<b>LIPOPROTEINS – RISK FACTORS FOR DEVELOPMENT OF ATHEROSCLEROSIS</b>
<b>2.</b>	<b>Code</b>	MEDI 10

3.	<b>Study Program</b>	General Medicine			
4.	<b>Institution (Unit, Institute, Chair, Department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Biochemistry and Clinical Biochemistry			
5.	<b>Degree of education (first or second cycle)</b>	Integrated 6 – year studies			
6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7.	<b>ECTS credits</b>	1			
8.	<b>Professors (when more professors, responsible professor is assigned)</b>	Prof. Danica Labudovikj, MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking subject's exam</b>	Signature from Biochemistry 1 and Biochemistry 2. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.			
11.	<b>Subject program goals (competences) and study results:</b>	<b>Teaching goals:</b> <ul style="list-style-type: none"> <li>• To understand the role of lipoproteins, transport proteins and enzymes involved in the development of atherosclerosis, and the diseases that are a consequence of atherosclerosis: CAD, stroke, DVT;</li> <li>• To become familiar with the electrophoretic methods for the separation of lipoproteins and to understand the principles of separation of HDL and LDL subclasses, apo(a) isoforms and the Western blott technique</li> </ul>			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Brief content</b> <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Classification and metabolism of plasma lipoproteins;</li> <li>• Chylomicrons, VLDL, LDL and HDL; LDL and HDL subclasses CETP, LCAT;</li> <li>• Lipoprotein (a) and apoprotein(a) phenotypes;</li> <li>• Clinical significance of lipoproteins in the development of: coronary artery disease, CAD, cerebrovascular diseases, diabetes, deep vein thrombosis.</li> </ul> <b>Practical teaching:</b> <ul style="list-style-type: none"> <li>• 3-30% gradient non-denaturing PAG electrophoresis for separation of HDL and LDL subclasses</li> <li>• 3-15-gradient SDS-PAG electrophoresis for</li> </ul>			

		separation of apoprotein(s) followed by Western blotting on nitrocellulose membrane, visualization by immunotechnique <b>Seminar work:</b> preparation of a seminar paper related to lipoproteins and a public presentation (PPT presentation) of the same and a discussion related to the seminar papers		
<b>13.</b>	<b>Interconnection between subjects</b>	Related to all other subjects		
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theory), practical exercises, seminar paper		
<b>15.</b>	<b>Total available time frame</b>	30 hours		
<b>16.</b>	<b>Forms of teaching activities</b>	<b>16.1</b>	Lessons – theoretical lessons, hours	5 hours
		<b>16.2</b>	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours
		<b>16.3</b>	Practice: hours	
<b>17.</b>	<b>Other forms of activities</b>	<b>17.1</b>	Project tasks: hours	
		<b>17.2</b>	Individual tasks: hours	
		<b>17.3</b>	Studying at home: hours	15 hours
<b>18.</b>	<b>Requirements for signature</b>	<b>Conditional criteria:</b> 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. Theoretical lessons 4 -10 points Practical lessons 4- 10 points		
<b>19</b>	<b>Method of assessment</b>			
	<b>19.1</b>	<b>Tests: points</b>		min.-max. 12 - 20
	<b>17.2</b>	<b>Seminar paper/project</b>	Seminar paper points	min.- max. points 25 - 35
		<b>(presentation: written and oral)</b>		
<b>19.3</b>	<b>Final exam: points</b>	Oral exam points	min.-max. 15 – 25	
		The grade for the subject is obtained according to the grade table and based on the sum of points gained in all of the activities, continual assessment of knowledge and final exam.		
<b>20.</b>	<b>Grading criteria (points/grade)</b>	up to 59 points		5 (five) F
		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		
21.	<b>Method of monitoring the quality of the teaching process</b>	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process			
22.	<b>Literature</b>				
	<b>Mandatory literature</b>				
		Author	Title	Publisher	Year
22.1.	1.	Dhalla NS, et all	Biochemistry of atherosclerosis	New York: Springer	2009
	2.	David M. Hawcroft	Diagnostic enzymology	London: Willey	1987
	<b>Additional literature</b>				
		Author	Title	Publisher	Year
22.2.	1.	Dunbar BS, et all	Protein Blotting. A practical approach	Oxford University Press	1999
	2.	Patel D.	Electrophoresis, Essential data	Chichester: Gel Wiley	1999

Number:11

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>SKIN MANIFESTATIONS OF INTERNAL ORGAN DISORDERS</b>			
2.	<b>Code</b>	<b>MEDI 11</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University, Medical Faculty, Department of Dermatovenerology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study			
6.	<b>Academic year/semester</b>	Year	Forth (IV)	Semester	Seventh (VII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Suzana Nikolovska, PhD, MD *teaching will be provided by the teachers from Department of Dermatovenerology			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Signature from the dermatovenerology course. The student can attend the final oral exam if he/she prepared an integrative seminar in a written form and presented it with oral presentation and interactive discussion of the colleagues and the responsible professor.			

11.	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>• The student will acquire knowledge about the different types of skin changes that indicate the existence of systemic disease</li> <li>• The student will have the skills to recognize and define the skin changes associated with a systemic disease</li> <li>• The student will have the skills to create a logical sequence for the management of the associated systemic disease according to the type of skin changes</li> <li>• The student will be aware of the importance of recognising the skin changes that are markers of systemic disease in the patient</li> <li>• The student will be aware of the need for interdisciplinary cooperation with colleagues of other specialites</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Cutaneous manifestations of endocrine diseases</li> <li>• Cutaneous manifestations of hematological diseases</li> <li>• Cutaneous manifestations of nephrological diseases</li> <li>• Cutaneous manifestations of cardiological and pulmonary diseases</li> <li>• Cutaneous manifestations of rheumatological diseases</li> <li>• Cutaneous markers of malignant solid tumors (paraneoplasia)</li> </ul> <p><b>Practical course:</b> Practicing the clinical skills and practical application of the acquired theoretical knowledge on real patients.</p>		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures, problem based learning, writing seminar paper		
15.	<b>Total available time frame</b>	30 classes		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 classes
		16.2.	Practical lessons Seminars	10 classes
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 classes
18	<b>Requirements for signature</b>	80% presence during theoretical and practical lessons		
19.	<b>Methods of assessment</b>			

	19.1.	Tests: points				/
	19.2.	Seminar paper/project, written and oral presentation: points				40-60
	19.3.	Final exam: points				11-40
20.	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Students' anonymous evaluation of the course as well as teachers and assistants.			
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Wolf K, Johnson RA	Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology	Chicago: Mc Graw Hill	2009
		2.	Griffiths C, Barker J, Bleiker T, Chalmers R, Creamer D	Rook's Text Book of Dermatology	New Jersey: John Wiley and Sons Ltd	2016
		Additional literature				
		Number	Author	Title	Publisher	year
	22.2.	1.	Ancevski A, Gocev G, Pavlova Lj, Petrova N	Dermatovenerology	Skopje: Kultura	2005

Number:12

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>BASIC IMMUNOGENETICS</b>			
2.	<b>Code</b>	<b>MEDI 12</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Immunology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7.	<b>ECTS credits</b>	1			

8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Assistant Professor Meri Kirijas, PhD, MD - responsible professor *Members of the Department of immunology and Department of Human Genetics are involved		
9.	<b>Language of the study</b>	English		
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam Introduction to immunology. In order to take the exam, the student should obtain minimum points in both theoretical and practical courses, and to present a seminar paper;		
11.	<b>Subject program goals (competences) and study results:</b>	Students will be able to: <ul style="list-style-type: none"> <li>• Define the term immunogenetics</li> <li>• To describe the application of immunogenetics</li> <li>• To describe the characteristics of HLA</li> <li>• To analyze familial HLA genotype and haplotype</li> <li>• To understand the role of immunogenetic testing in the transplantation of organs and tissues</li> <li>• To understand the role of immunogenetic testing in the transplantation of hematopoietic stem cells</li> <li>• To understand the role of HLA in the development of autoimmune diseases</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Major histocompatibility complex (MHC), organization of MHC class I and MHC class II</li> <li>• Immunological function of HLA molecules</li> <li>• Biological and clinical significance of HLA system</li> <li>• Immunogenetics and transplantation of solid organs</li> <li>• Immunogenetics and transplantation of hematopoietic stem cells</li> <li>• HLA and disease association</li> <li>• HLA antigens and antibodies</li> </ul> <b>Practical course:</b> <ul style="list-style-type: none"> <li>• Methods for HLA typing (PCR-SSP, PCR-SSOP, NGS)</li> <li>• Determination of anti-HLA antibodies</li> </ul>		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Seminars, interactive lessons		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15

18.	<b>Requirements for signature</b>	Student is required to attend the theoretical, practical classes and seminars				
19.	<b>Methods of assessment</b>					
	19.1.	Tests: points	12-20			
	19.2.	Seminar paper/project, written and oral presentation: points	36-60			
	19.3.	Final exam: points	12-20			
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the course and the teachers and collaborators participating in the teaching			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Li XC, Jevnikar AM	Transplant Immunology	Hoboken: Wiley Blackwell	2016
		2.	Klimov V	From basic to clinical immunology	New York: Springer	2019
		<b>Additional literature</b>				
	22.2.	Number	Author	Title	Publisher	year
		1.	Sompayrac L.	How the immune system works, 6 <sup>th</sup> edition	New York: Wiley Blackwell	2019
		2.				
		3.				

Number:13

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
1.	<b>Subject</b>	<b>CLINICAL IMMUNOLOGY</b>
2.	<b>Code</b>	<b>MEDI 13</b>
3.	<b>Study program</b>	General medicine
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Immunology
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6 - year studies

6.	<b>Academic year/semester</b>	Year	Second (II)	Semester	Fourth (IV)
7	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Dejan Trajkov, MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Obtained signature from subject Introduction to immunology. In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation.			
11.	<b>Subject program goals (competences) and study results:</b>	Teaching goals: Educating students with immune disorders and the diseases caused by them			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>Brief content</p> <p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Infection and immunity</li> <li>• Congenital and acquired deficiencies</li> <li>• Allergic diseases</li> <li>• Systemic immune diseases</li> <li>• Organ-specific inflammatory diseases</li> <li>• Transplantation of red organs</li> <li>• Immunology of tumors</li> <li>• Prevention and therapy of immunological diseases</li> <li>• Diagnostic immunology</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Seminar paper</li> </ul>			
13	<b>Interconnection between subjects</b>	Allows upgrading to specific areas of immunology			
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, practical exercises, seminars			
15.	<b>Total available time frame</b>	30 hours			
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours	
		16.3.	Practice: hours		
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours		
		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours	15 hours	
18.	<b>Requirements for signature</b>	Prerequisite criteria:			



	1.	Sompayrac L.	How the immune system works, 6 <sup>th</sup> edition	New York: Wiley Blackwell	2019
	2.	Ljaljevic J, et al.	Clinical imunology	Beograd: Sezam Medico	2002

Number:14

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>THE SCIENTIFIC WORK - TO WRITE AND PUBLISH</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 14</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Immunology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Third (III)	Semester	Fifth (V)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Dejan Trajkov, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Obtained signature from subject Basics in scientific work. In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Teaching goals: <ul style="list-style-type: none"> <li>• To recognize and use a scientific way of thinking</li> <li>• To know what scientific thinking is</li> <li>• To use scientific information</li> <li>• To make a classification of scientific works</li> <li>• To submit a scientific paper</li> <li>• To present a scientific paper</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Brief content <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Searching literature data</li> <li>• Computer analysis of highly similar papers</li> <li>• Measuring scientific contribution with the Publish or perish program</li> <li>• Preparation of original paper</li> <li>• Preparation of a review paper</li> <li>• Preparing a case report</li> </ul>			

		<b>Practical course:</b>		
		<ul style="list-style-type: none"> <li>• Presentation of an original paper</li> <li>• Presentation of a review paper</li> <li>• Presenting a case report</li> </ul>		
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, practical exercises, seminars		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical, practical classes and seminars and earn a minimum number of points.		
19	<b>Methods of assessment</b>		<b>points</b>	
	19.1.	Tests: points	min.- max. 15-25 points	
	19.2.	Seminar paper/project, written and oral presentation: points	min.- max. 25-35 points	
	19.3.	Final exam: points	min.- max. Theoretical course 10-20 points Practical course 10-20 points  The grade for the subject is formed according to the grade table, and based on the sum of the points from all activities, continuous knowledge checks and the final exam.	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)
			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)
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities		
22.	<b>Literature</b>			

22.1.	<b>Mandatory literature</b>				
	Number	Author	Title	Publisher	Year
	1.	Matko Marusic	Introduction to scientific work in medicine	Zagreb: Medicinska naklada	2019
22.2.	<b>Additional literature</b>				
	Number	Author	Title	Publisher	year
	1.	Spiroski M.	The scientific paper - to write and publish	Skopje: Institute for immunobiology and human genetics,	2002

Number:15

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>CLINICAL NUTRITION</b>			
2.	<b>Code</b>	<b>MEDI 15</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh (VII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate. Prof. Kalina Grivcheva Stardelova, MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Preconditions for attending the classes: None In order to enter the final exam, a student is required to attend the practical and lecture classes and to obtain a minimum score.			
11.	<b>Subject program goals (competences) and study results:</b>	The subject program goals is to increase the student's awareness of the contribution of ultrasound within the general clinical picture, and to introduce the student to its enormous potential At the end, students will have basic knowledge of ultrasound findings in same pathological conditions of the abdominal organs (liver, gallbladder, bile ducts, pancreas, spleen, kidneys and large vessels).			
12.	<b>Subject content in details by chapters</b>	Theoretical lectures: 1. Indications for Parenteral Nutrition			



		From 77 to 84 points	8 (eight) (C)			
		From 85 to 92 points	9 (nine) (B)			
		From 93 to 100 points	10 (ten) (A)			
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject, the teacher and collaborators participating in the teaching				
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Group of authors	Blue book - ESPEN Course Book, 2nd Edition	ESPEN Course Book, 2nd Edition	2023
		2.				
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	Teaching materials on English for students prepared by the faculty			
2.		Mazur EE, Litz NA	Lutz's Nutrition and Diet Therapy	Philadelphia: FA Davis Company	2108	

Number:16

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>ELECTROCARDIOGRAPHY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 16</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Lidija Poposka, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	To pass Clinical examination exam. In order to enter the final exam, the student is required to attend the theoretical and practical course.			

11.	<b>Subject program goals (competences) and study results:</b>	<p>The major aim of the course (competences):</p> <ul style="list-style-type: none"> <li>• To learn how to make a quality electrocardiogram</li> <li>• To learn how to recognize a normal electrocardiogram</li> <li>• To recognize essential disorders in conduction of impulses</li> <li>• To recognize atrial or ventricular arrhythmia</li> <li>• To recognize myocardial ischemia/ infarction</li> <li>• To recognize electrocardiographic indexes of structural cardiac disorders</li> <li>• To recognize rhythm on electro-stimulator</li> <li>• To recognize conditions that require urgent treatment</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <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> <li>• Normal electrocardiogram, access to interpreting</li> <li>• Normal sinus rhythm and sinus rhythms</li> <li>• Disorders in conducting impulses</li> <li>• Rhythm disorders <ul style="list-style-type: none"> <li>- Atrial</li> <li>- Junctional</li> <li>- Ventricular</li> </ul> </li> <li>• Myocardial ischemia and infarction</li> <li>• Atrial and ventricular loading</li> </ul> <p><b>Practical course:</b> Exercising and interpreting of an electrocardiogram</p>		
13	<b>Interconnection between subjects</b>	Electrocardiography is a skill that is necessary from the level of a general practitioner to the level of a subspecialist internist, anesthesiologist, cardiologist.		
14.	<b>Description of the subject's study and working methods in details</b>	Theoretical (interactive) teaching during the lectures and exercises (practical teaching)		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons - interactive, hours	10
		16.2.	Practical lessons, team work: hours	5
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18.	<b>Requirements for signature</b>	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score.		
19	<b>Methods of assessment</b>			

	19.1.	Tests: points	12-20 points			
	19.2.	Activity	18-30 points			
	19.3.	Final exam: points	30-50 points The grade for the course is formed according to the grading table, based on the sum of the points from all the activities, and the continuous checks			
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the subject, the teacher and collaborators participating in the teaching process			
22.	<b>Literature</b>					
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Loscalzo J. et al.	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022
		2.	Goldman L, Ausiello D.	Goldman-Cecil Medicine, 27 <sup>th</sup> edition	New York:Elsivier	2023
	22.2.	Additional literature				
		Number	Author	Title	Publisher	year
		1.	Georgievska Ismail Lj, Poposka L, Trajkov I, Gjorgov N.	Electrocardiography	(COIBSS. mk – ID71834122):	2008

Number:17

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
1.	<b>Subject</b>	<b>ADOLESCENT RHEUMATOLOGY</b>
2.	<b>Code</b>	<b>MEDI 17</b>
3.	<b>Study program</b>	General Medicine

4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Ljubinka Damjanovska Krstikj, MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	To pass Clinical examination exam. In order to enter the final exam, the student is required to attend the theoretical and practical course.			
11.	<b>Subject program goals (competences) and study results:</b>	To disseminate knowledge about rheumatologic condition in young people			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Subject content: <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Juvenile idiopathic arthritis</li> <li>• Connective tissue diseases</li> <li>• Autoinflammatory disorders</li> </ul> <b>Practical course:</b> <ul style="list-style-type: none"> <li>• Mastering of clinical skills and practical application of the acquired theoretical knowledge.</li> </ul>			
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study			
15.	<b>Total available time frame</b>	30 hours			
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours		
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours		
		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours	15	
18.	<b>Requirements for signature</b>	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score.			
19.	<b>Methods of assessment</b>				
	19.1.	Tests: points			15 - 30
	19.2.	Seminar paper/project, written and oral presentation: points			15 - 30

	19.3.	Final exam: points			20 - 40	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>					
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Sawhney S, Aggarwal A.	Pediatric rheumatology: A Clinical Viewpoint	New York: Springer Link	2017
		2.	Petty et al.	Textbook of pediatric rheumatology, 8 <sup>th</sup> . ed	New York: Springer	2020
		<b>Additional literature</b>				
	22.2.	Number	Author	Title	Publisher	Year
		1.	Loscalzo J. et al.	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022

Number:18

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>ABDOMINAL ULTRASOUND</b>			
2.	<b>Code</b>	<b>MEDI 18</b>			
3.	<b>Study program</b>	General medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh (VII)
7.	<b>ECTS credits</b>	1			

8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Assistant Prof. Beti Todorovska, MD, PhD		
9.	<b>Language of the study</b>	English		
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	To pass Clinical examination exam. In order to enter the final exam, the student is required to attend the theoretical and practical course and to obtain a minimum score.		
11.	<b>Subject program goals (competences) and study results:</b>	The subject program goals is to increase the student's awareness of the contribution of ultrasound within the general clinical picture, and to introduce the student to its enormous potential At the end, students will have basic knowledge of ultrasound findings in same pathological conditions of the abdominal organs (liver, gallbladder, bile ducts, pancreas, spleen, kidneys and large vessels).		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Indications for ultrasound examination.</li> <li>• Basic Physical and Technical Principles (Ultrasound Techniques, Scanning Protocol, Sonographic Topography) of abdominal ultrasound</li> <li>• Examination of the hepatobiliary system, pancreas, spleen, kidneys and large vessels</li> <li>• Clinical importance of abdominal ultrasound in daily routine</li> </ul> <b>Practical course:</b> <ul style="list-style-type: none"> <li>• Performing ultrasound examination of of the hepatobiliary system, pancreas, spleen, kidneys and large vessels.</li> <li>• Interpretation of ultrasound findings.</li> </ul>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Theoretical (interactive) teaching during the lectures and participation in the daily work of the Department of Ultrasound at the UC for Gastroenterohepatology and ultrasound examination of the patients		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score. Theoretical course 20-24 points		

		Practical course	20-24 points			
<b>19</b>	<b>Methods of assessment</b>					
	19.1.	Tests: points				
	19.2.	Seminar paper/project, written and oral presentation: points				
	19.3.	Final exam: points			20 - 52	
<b>20</b>	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the subject, the teacher and collaborators participating in the teaching			
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Schmidt G	Ultrasound	Thieme	2007
		2.	Bates JA	Abdominal Ultrasound - How, Why and When	Churchill Livingstone	2004
		3.	Dietrich CF, Serra C, Jedrzejczyk M	Ultrasound of the liver, EFSUMB Course Book, 2nd Edition	EFSUMB	2018
		Additional literature				
	<b>22.2.</b>	Number	Author	Title	Publisher	Year
		1.	Loscalzo J. et al.	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022

Number:19

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
<b>1.</b>	<b>Subject</b>	<b>CARDIAC EMERGENCIAS</b>
<b>2.</b>	<b>Code</b>	<b>MEDI 19</b>
<b>3.</b>	<b>Study program</b>	General Medicine

4.	<b>Institution (unit, institute, chair, department)</b>	St Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Marija Vavlukis MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam of Clinical examination. 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 obtain a minimum score.			
11.	<b>Subject program goals (competences) and study results:</b>	To gain knowledge of life-threatening cardiological conditions, the basic principles of their recognition, diagnosis, initial treatment and basic knowledge of further treatment.			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Acute heart failure (pulmonary oedema and cardiogenic shock)</li> <li>• Aortic dissection</li> <li>• Pericardial effusion and tamponade, electromechanical dissociation</li> <li>• Ventricular tachycardia, polymorphic ventricular tachycardia, ventricular fibrillation</li> <li>• Cardio-pulmonary resuscitation</li> <li>• Supraventricular tachycardia and atrial fibrillation with fast ventricular rate</li> <li>• Hypertensive urgency and hypertensive emergency</li> <li>• Pulmonary thromboembolism and acute right ventricular failure</li> <li>• Hyperkalemia</li> <li>• Digoxin toxicity</li> </ul> <p><b>Practical course:</b> Practical teaching will take place through case studies of clinical practice, for each of the pathologies covered in the theoretical part, with interactive participation.</p> <p><b>Seminar work:</b> Each student will process a specific clinical case, with critical analysis and use of literature data, and present it publicly.</p>			

13	<b>Interconnection between subjects</b>	Related to all subjects in the study program				
14.	<b>Description of the subject's study and working methods in details</b>	Theoretical (interactive) teaching during the lectures and exercises (practical teaching)				
15.	<b>Total available time frame</b>	30 hours				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons -interactive, hours	5		
		16.2.	Practical lessons, team work: hours	10		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15		
18	<b>Requirements for signature</b>	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score.				
19	<b>Methods of assessment</b>					
	19.1.	Activity and participation		18-24 points theory 18-24 points practical lessons		
	19.2.	Seminar paper/project,		6-22 points		
	19.3.	Final exam: points		18-30 points  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	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject, the teacher and collaborators participating in the teaching process				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Marco Tubaro M (ed.) et al.	The ESC Textbook of Intensive and Acute Cardiovascular Care (3 edn)	Oxford Academic	2021
	22.2.	Additional literature				
Number		Author	Title	Publisher	year	

		1.	Loscalzo J. et al.	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022
		2.	Teaching materials on English for students prepared by the faculty			

Number:20

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>INTERVENTIONAL CARDIOLOGY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 20</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Internal Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	IV	Semester	VIII
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Sashko Kedev MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject`s exam</b>	<p>To pass Clinical examination exam. In order to get to the final evaluation, it`s necessary for the student to be present at the theoretical and practical lessons and gain minimal points from both. To get to the final exam the student must do a PowerPoint presentation on a designated topic.</p> <p>Activity and participation theoretical course 18-24 points practical course 18-24 points</p>			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	To gain theoretical and practical knowledge in Interventional cardiology, and gain insight into all minimally invasive, catheter-based techniques to diagnose and treat coronary artery disease, peripheral vascular disease, structural heart disease and valvular heart disease. Students will be provided with the latest and up to date practice, knowledge, and skills necessary in the field of interventional cardiology and will find out about future perspectives.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course and practical course:</b></p> <ul style="list-style-type: none"> <li>• Foundations of interventional cardiovascular medicine</li> <li>• Percutaneous access for cardiovascular interventions</li> <li>• Diagnostic cardiovascular modalities and their application</li> <li>• Percutaneous coronary interventions, materials and stents</li> </ul>			

		<ul style="list-style-type: none"> <li>• Interventions for ST-segment elevation acute myocardial infarction</li> <li>• Complex coronary interventions</li> <li>• Solving complications in the cath lab</li> <li>• Structural heart interventions</li> <li>• Cardotid artery interventions</li> <li>• Subclavian, brachiocephalic and vertebral interventions</li> <li>• Interventions in the reno-visceral circulation</li> <li>• Peripheral arterial interventions</li> <li>• Concept, techniques and clinical effectiveness of renal nerve ablation in hypertension</li> <li>• Endovascular treatment of acute ischemic stroke</li> </ul>
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program
14.	<b>Description of the subject's study and working methods in details</b>	Interactive studies, demonstration, gaining practical skills, discussions, and consultations with responsible teachers.
15.	<b>Total available time frame</b>	30 hours
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours 5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours 10
		16.3. Practice: hours
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours
		17.2. Individual tasks: hours
		17.3. Studying at home: hours 15
18	<b>Requirements for signature</b>	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score. Theoretical course 8-24 points Practical course 8-24 points
19	<b>Methods of assessment</b>	
	19.1.	Tests: points
	19.2.	Seminar paper/project, written and oral presentation: points 6-22 points
	19.3.	Final exam: points 18-30 points  The grade for the exam is formed according to the table of grades, and on the basis of the sum of points gained from all activities, assessments and final exam.
20	<b>Grading criteria (points/grade)</b>	Up to 59 points 5 (five) (F)
		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)			
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous evaluation from the students for the subject itself and the teachers involved in the classes.				
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Joint authors.	PCR-EAPCI Textbook	European Society of cardiology	2023
		2.	Topol E.	Textbook of Interventional Cardiology	New York: Elsevier	2019
		3.	Emmanouil Brilakis E.	Manual of Percutaneous Coronary Interventions	New York: Elsevier	2020
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Kedev et al.	Minimalistic Approach for Transcatheter Aortic Valve Implantation (TAVI): Open Vascular Vs. Fully Percutaneous Approach.	Prilozi/Manu	2019
		2.	Kedev et al.	Safety and feasibility of transulnar catheterization when ipsilateral radial access is not available.	Catheterization and cardiovascular interventions	2014
	3.	Kedev et al.	Macedonia: coronary and structural heart interventions from 2010 to 2015.	Eurointervention	2017	

Number:21

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>MODERN NON PHARMACOLOGICAL AND PHARMACOLOGICAL TREATMENT OF TYPE 2 DIABETES</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 21</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of internal medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	IV	Semester	VIII
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Tatjana Milenkovic, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	To pass Clinical examination exam. In order to get to the final evaluation, it's necessary for the student to be present at the theoretical and practical course and to prepare a seminar paper.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Acquaintance with modern non-pharmacological and pharmacological treatment of type 2 diabetes The doctoral student will be able to apply the knowledge of diabetes treatment in the preparation of a scientific paper from this field, which is in development and has a large number of patients that enable a simpler preparation of a scientific paper, as well as the possibility of performing scientific research work in this area.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Nutrition for people with diabetes, carbohydrate counting and advanced carbohydrate counting for people on intensive insulin treatment</li> <li>• Physical activity, types of physical activity, its controlled performance and benefit from it</li> <li>• Education and self-control of people with diabetes, types, meaning and practical implementation</li> <li>• Oral therapy – detailed familiarization with existing and new groups of drugs, their advantages, disadvantages, effectiveness in treatment</li> </ul>			

		<ul style="list-style-type: none"> <li>• Insulin therapy, types of insulin, insulin regimens, indications for their use</li> <li>• Individual work:</li> <li>• Evaluation of scientific literature</li> <li>• Seminars (2) on carbohydrate counting, daily caloric needs</li> <li>• Consultations</li> <li>• A small written paper by the doctoral student (seminar work)</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Daily caloric needs, determining a diet (creating an individual menu) for people with diabetes</li> <li>• Practical self-control and therapy of diabetes - to live 3 days as a person with diabetes</li> </ul>	
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program	
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, monitoring of scientific literature, independent preparation of a seminar paper, independent preparation of daily caloric and carbohydrate needs for people with diabetes, to live as a person with diabetes.	
15.	<b>Total available time frame</b>	30 hours	
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3. Practice: hours	
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours	
		17.2. Individual tasks: hours	
		17.3. Studying at home: hours	15
18.	<b>Requirements for signature</b>	Regular monitoring of theoretical and practical teaching Independent preparation of a seminar paper	
19.	<b>Methods of assessment</b>		
	19.1.	Tests: points	24-40
	19.2.	Seminar paper/project, written and oral presentation: points	24-40
	19.3.	Final exam: points	12-20
20.	<b>Grading criteria (points/grade)</b>		
	Up to 59 points		5 (five) (F)
	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)	

21.	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the subject and the teachers and associates who participate in teaching			
22.	<b>Additional literature</b>					
	22.1.	<b>Mandatory</b>				
		1.	White JR, PharmD PA	Guide to Medications for the Treatment of Diabetes Mellitus	American Diabetes Association	2021
		2.	Schroeder EB	Management of Type 2 Diabetes: Selecting Amongst Available Pharmacological Agents.	Available from: <a href="https://www.ncbi.nlm.nih.gov/books/NBK425702/">https://www.ncbi.nlm.nih.gov/books/NBK425702/</a>	2022
		3.	Holt RIG, Cockram C, Flyvbjerg A, Goldstein BJ (Editors)	Textbook of Diabetes, 5th Edition	Hoboken: Wiley- Blackwell	2017
	22.2.	<b>Additional</b>				
		1.	American Diabetes Association	American Diabetes Association. Clinical Practice resommendation, 2013	American Diabetes Association	2013
		2.	Wolfsdorf JI, Editor	Intensive Diabetes Management, 5th Edition	American Diabetes Association	2012
		3.	American Diabetes Association and American Dietetic Association	Choose Your Foods- Exchange Lists for Diabetes	American Diabetes Association	2008

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>OCCUPATIONAL DISEASES AND WORK-RELATED DISEASES</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 22</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Occupational Health			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh (XI)
<b>7.</b>	<b>ECTS credits</b>				
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Jordan Minov PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Precondition for attending the classes: Signature for the subject Occupational Medicine In order to take the final exam, the student has to prepare a seminar paper in written form, make a Power point presentation and has to present the seminar paper orally.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <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 work-related diseases</li> <li>• Seminar work in occupational pathology</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <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</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Asthma related to work/occupational asthma – case report</li> <li>• Lung diseases related to asbestos exposure – case report</li> <li>• Occupational contact dermatitis – case report</li> <li>• Occupational lead poisoning – case report</li> <li>• Occupational hearing loss – case report</li> </ul> <p><b>Seminar papers</b></p>			

		<ul style="list-style-type: none"> <li>• COPD related to occupational exposures</li> <li>• Occupational zoonoses</li> </ul>
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program
14.	<b>Description of the subject's study and working methods in details</b>	Interactive theoretical teaching, practice, seminars
15.	<b>Total available time frame</b>	30 hours
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours 5 hours
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours 10 hours
		16.3. Practice: hours
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours
		17.2. Individual tasks: hours
		17.3. Studying at home: hours 15 hours
18.	<b>Requirements for signature</b>	<b>Conditional criteria:</b> In order to get a signature, the student needs to attend the theoretical, practical lectures and seminars and earn a minimum number of points.
19.	<b>Methods of assessment</b>	
	19.1. Tests: points	Oral exam 15 – 25 points
	19.2. Seminar paper/project, written and oral presentation: points	Seminar paper 25-35 points
	19.3. Final exam: points	20 – 40 points  The grade for the subject is composed according to the grade table, based on the sum of the points from all activities, continuous tests and the final exam.
20	<b>Grading criteria (points/grade)</b>	Up to 59 points 5 (five) (F)
		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)
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student evaluation of the course and the teachers and associates participating in the teaching.
22.	<b>Literature</b>	

	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		2.	Minov J.	COPD and Occupational Exposures	New York: Nova Science Publishers, Inc.	2016
	22.2.	Additional literature				
		Number	Author	Title	Publisher	Year
		1.	Minov J.	Occupationally-related Diseases of Lung and Pleura	Skopje: Pristopi& Institut za medicina na trudot na R. Makedonija,	2009
2.	Bislimovska Karadzinska J, Minov J, Risteska-Kuc S, Mijakoski D, Stoleski S.	Occupational Medicine	Medical Faculty, Skopje	2011		

Number:23

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>JOB STRESS AND BURNOUT</b>			
2.	<b>Code</b>	<b>MEDI 23</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius, University in Skopje, Faculty of Medicine, Department of Occupational Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh (XI)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof. Dragan Mijakoski, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Signature for the subject Occupational Medicine			
11.	<b>Subject program goals (competences) and study results:</b>	To obtain knowledge and skills for: application of basic principles for identification of workplace psychosocial hazards; analysis of job stress and burnout; development and application of methodology for analysis of workplace stress factors according to			

		Job Demands/Resources Model; development and conduction of workplace interventions towards prevention of adverse effects of workplace psychosocial hazards; and development and application of organisational interventions according to the principles of action research.		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Psychosocial aspects of work - basic concept and definitions</li> <li>• Importance of workplace psychosocial hazards</li> <li>• Analysis of the Job Demands/Resources Model of burnout</li> <li>• Job stress and burnout - definitions, epidemiological data, and adverse effects</li> <li>• Burnout vs. Job engagement</li> <li>• Importance of organizational culture and team work</li> <li>• Development and conduction of workplace interventions towards prevention of adverse effects of workplace psychosocial hazards</li> <li>• The role of action research in development and application of organisational interventions - epidemiological and case studies with evaluation of scientific literature in the field</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Development and application of methodology for analysis of workplace stress factors, job stress and burnout</li> <li>• Practical application of statistical methods for analysis of workplace stress factors, job stress and burnout and drawing relevant conclusions</li> <li>• Development of organisational interventions for reduction of job stress according to the principles of action research</li> </ul> <p><b>Seminar work:</b> Selected topics from the field of organizational psychology</p>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures (theoretical course), practical lessons, seminar work		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	/
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	/
		17.2.	Individual tasks: hours	/
		17.3.	Studying at home: hours	15

18	<b>Requirements for signature</b>		<p>In order to take a signature, the student has to attend theoretical lectures, practical lessons and seminars and to obtain minimum points for each activity.</p> <p>In order to attend the final exam, the student has to write a Seminar work in Word format and to create a Power point presentation as well as to have an oral presentation of the Seminar work.</p> <p>The grade for the subject is calculated using a table of grades, and according to the sum of points for each activity, continuous examinations, as well as final oral examination.</p>			
19	<b>Methods of assessment</b>					
19.1.	Tests/active participation: points		Theoretical course 10-20 points Practical lessons 10-20 points			
19.2.	Seminar paper/project, written and oral presentation: points		Seminar work 25-35 points			
19.3.	Final exam: points		Oral examination 15-25 points			
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>		Anonymous student evaluation for the subject, and teachers and collaborators involved in the teaching process.			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Rom WN (ed.)	Environmental and Occupational Health (4 <sup>th</sup> ed.)	Boston: Lippincot & Williams,	2007
	2.	Tulchinsky T, Varavikova E.	The New Public Health (3 <sup>rd</sup> ed.)	San Diego: Academic Press,	2014	
	22.2.	<b>Additional literature</b>				
Number		Author	Title	Publisher	year	

		1.	Leka S, Griffiths A, Cox T, Institute of Work, Health & Organizations	Work Organization and stress: systematic problem approaches for employers, managers and trade union representatives	Geneva: World Health Organization (WHO)	2004
		2.	Sauter S, Murphy L, Colligan M, et al.	Stress at Work. DHHS (NIOSH) Publication No. 99-101	Cincinnati, OH:National Institute for Occupational Safety and Health (NIOSH)	1999
		3.	European Commission, Directorate- General for Employment and Social Affairs	Guidance on work-related stress. Spice of life or kiss of death?	Luxembourg: Office for Official Publications of the European Communities	2000
		4.	European Foundation for the Improvement of Living and Working Conditions	Work-related stress	Dublin: European Foundation for the Improvement of Living and Working Conditions	2010
		5.	Bakker AB, Leiter MP (eds.)	Work engagement: a handbook of essential theory and research	New York, NY: Psychology Press	2010
		6.	Karadzinska- Bislimovska J, Minov J, Risteska- Kuch S, Mijakoski D, Stoleski S.	Occupational Medicine	Skopje: UKIM	2011

Number:24

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>OCCUPATIONAL MALIGNANT NEOPLASMS</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 24</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Occupational Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh (XI)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof. Dr Sasho Stoleski			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Signature on the subject Occupational Medicine In order to take the final exam, the student has to prepare a seminar paper in written form, make a Power point presentation and has to present the seminar paper orally.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	To provide knowledge and skills for the application of the basic principles for the prevention of occupational malignant neoplasms, evaluation of the available literature in this area, contribution to the implementation of health interventions for the prevention of these diseases and evaluation of intervention programs in this area. The student will be able to acquire professional knowledge, but also basic knowledge for performing scientific research work and producing a scientific paper in this field.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Brief content</b></p> <p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Professional malignant neoplasms – definition, pathogenetic mechanisms, diagnostics and treatment</li> <li>• Occupational carcinogens and carcinogenic risk (classification according to the International Agency for Research on Cancer - IARC)</li> <li>• Occupational malignant diseases - prevention</li> <li>• Occupational malignant neoplasms - clinical and epidemiological research</li> <li>• Occupational malignant neoplasms - opportunities for health interventions</li> </ul> <p><b>Practical lessons:</b></p> <ul style="list-style-type: none"> <li>• Occupational malignant neoplasms of the skin - case report</li> <li>• Occupational malignant neoplasms of the lungs and pleura - case report</li> <li>• Occupational malignant neoplasms of the upper respiratory tract - case report</li> </ul>			

		<ul style="list-style-type: none"> <li>Occupational malignant neoplasms of the hematopoietic system - case report</li> <li>Occupational malignant neoplasms of the gastrointestinal tract - case report</li> <li>Occupational malignant neoplasms of the reproductive system - case report</li> <li>Occupational malignant neoplasms of the endocrine system - case report</li> </ul> <p><b>Seminar paper:</b> Selected topics in the field of occupational carcinogens and occupational malignant neoplasms</p>	
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program	
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theoretical), practice, seminars	
15.	<b>Total available time frame</b>	30 hours	
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3. Practice: hours	
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours	/
		17.2. Individual tasks: hours	/
		17.3. Studying at home: hours	15
18	<b>Requirements for signature</b>	<p>Conditional criteria:  In order to get a signature, the student needs to attend the theoretical, practical lectures and seminars and earn a minimum number of points.</p>	
19	<b>Methods of assessment</b>		
	19.1.	Tests: points	25-35
	19.2.	Seminar paper/project, written and oral presentation: points	25-35
	19.3.	Final exam: points	10-30 The grade for the subject is composed according to the grade table, based on the sum of the points from all activities, continuous tests and the final exam.
20	<b>Grading criteria (points/grade)</b>	Up to 59 points	5 (five) (F)
		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)			
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student evaluation of the course and the teachers and associates participating in the teaching.				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	International Agency for Research on Cancer.	IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemical To Humans. Some Industrial Chemicals. Vol. 115.	Lyon: IARC	2018
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
1.		Rom WN (ed.)	Environmental and Occupational Health (4th ed.)	Boston: Lippincott & Williams,	2007	
2.		Anttila S, Boffetta P.	Occupational Cancers	New York: Springer	2014	

Number:25

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>CEREBROVASCULAR DISEASES (ETIOLOGY, PATHOPHYSIOLOGY, RISK FACTORS, CLASSIFICATION, CONTEMPORARY DIAGNOSIS AND TREATMENT</b>			
2.	<b>Code</b>	<b>MEDI 25</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Neurology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
7	<b>ECTS credits</b>	1			

8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Anita Arsovska, PhD, MD		
9.	<b>Language of the study</b>	English		
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Signature from Neurology. To enter the exam, seminar work (writing text and presenting) is needed.		
11.	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>• Acquaintance with the etiology, pathophysiological mechanisms, risk factors, clinical picture and modern diagnostic methods used in patients with cerebrovascular diseases</li> <li>• Familiarity with modern therapeutic principles of cerebrovascular diseases treatment in accordance with experts' recommendations, and on basis of evidence-based medicine guidelines</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Etiology, pathophysiological mechanisms, risk factors and division of cerebrovascular diseases</li> <li>• Modern diagnostics of cerebrovascular diseases</li> <li>• Modern treatment of cerebrovascular diseases</li> </ul> <p><b>Practical course:</b></p> <ul style="list-style-type: none"> <li>• Examination of patients with transient ischemic attack</li> <li>• Examination of patients with ischemic cerebrovascular stroke</li> <li>• Review of patients with intracerebral and subarachnoid hemorrhage</li> <li>• Familiarity with specific diagnostic techniques in cerebrovascular diseases (ctm, mri, extracranial and transcranial color doppler sonography)</li> </ul> <p><b>Seminar work:</b></p> <ul style="list-style-type: none"> <li>• Contemporary diagnostic techniques in cerebrovascular diseases</li> <li>• Etiology, pathophysiology and classification of cerebrovascular diseases</li> <li>• Contemporary therapy of cerebrovascular diseases</li> <li>• Differential diagnosis of cerebrovascular diseases</li> </ul>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Lectures, PPP and exercises		
15.	<b>Total available time frame</b>	30		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	

17.	<b>Other forms of activities</b>		17.1.	Project tasks: hours		
			17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours	15	
18	<b>Requirements for signature</b>		To obtain signature, active presence at theoretical lessons are obliged.  The final mark is formed by summarizing the points of certain activities.			
19	<b>Methods of assessment</b>					
	19.1.	Tests: points			min.-max. 15-25	
	19.2.	Seminar paper/project, written and oral presentation: points			min.-max. 25-35	
	19.3.	Final exam: points			min.-max. 20-40	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Uluduz D, Arsovska A	Rare causes of stroke	Cambridge University Publisher	2022
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
1.		Roger S, Aminof M, Gringerb D	Clinical neurology	Chicago: Mc Graw-Hill Companies Inc.	2020	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>PATHOPHYSIOLOGY OF CENTRAL NERVOUS SYSTEM</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 26</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Pathophysiology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Third (III)	Semester	Sixth (VI)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof. Sinisa Stojanoski, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Preconditions for attending the classes: passed exam of Pathophysiology 1, Signature of Pathophysiology 2 To take the exam the student is required to actively follow all of the planned activities. Theoretical course 10-20 points practical lectures 10-20 points			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Study of the pathophysiology of brain functions with an integrated approach in the study of separate disorders of the central nervous system.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Content of the subject program: Theoretical teaching: <ul style="list-style-type: none"> <li>• Disorders of cerebral blood flow (ischemia of brain tissue, hemorrhage, molecular pathogenesis of stroke)</li> <li>• Organic psychosyndrome (disturbances of: consciousness, behavior, the memory; dementia; neurological syndromes due to damage to the cerebral cortex; speech disorders)</li> <li>• Pathophysiology of nerve transmission (disorders of neurotransmitters, receptors)</li> <li>• Disorders of the cerebrospinal fluid and the hemato-cerebral barrier (hydrocephalus, CSF analysis).</li> </ul> Practical work: analysis and discussion by separate groups of CNS disorders Seminar work: by separate disorders of the CNS Study of the pathophysiology of brain functions with an integrated approach in the study of separate disorders of the central nervous system.			
<b>13</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theoretical), exercises, seminar work			

15.	<b>Total available time frame</b>	30 classes				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15		
18.	<b>Requirements for signature</b>	The student is required to actively follow all of the planned activities.				
19.	<b>Methods of assessment</b>					
	19.1.	Tests: points				
	19.2.	Seminar paper/project, written and oral presentation: points	25-35			
	19.3.	Final exam: points	15-25			
20.	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation for the subject and the teachers and associates who participate in the performance of teaching.				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	McPhee SJ, Ganong WF.	Pathophysiology of disease. An introduction to clinical medicine.	New York: Langee medical Books/McGraw-Hill	2003
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
1.		Gamulin S. et al.	Pathophysiology	Zagreb: Medicinska naklada	2013	

Number:27

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>HEALTH ASSESSMENT AND STRATEGIC PLANNING FOR HEALTH IN COMMUNITY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 27</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	University Ss Cyril and Methodius in Skopje, Faculty of medicine, Department of Social Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh (XI)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Fimka Tozija, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam: Introduction to Medicine To access to the final exam the student should produce a written seminar paper and make a power point presentation.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<p>The teaching goals of this study program are to improve the knowledge of the student about health evaluation and by the end of this course the student to have skills and to be able to</p> <ul style="list-style-type: none"> <li>• Understand the management cycle and planning process in public health</li> <li>• Define the public health problem and to set the priorities for the public health intervention in the community</li> <li>• Analyze the public health problem and evidence- based process</li> <li>• Plan and recommend strategically appropriate effective evidence – based intervention</li> <li>• Monitor and evaluate the implementation of the intervention strategy</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>At the end of the theoretical course the student will have improved knowledge and competences about the following topics:</p> <p>Chapter 1: Management cycle:</p> <ol style="list-style-type: none"> <li>1. Community health management cycle- a six – step planning process</li> <li>2. System of setting basic priorities and introduction to PEARL</li> </ol> <p>Chapter 2: Problem definition and analysis:</p> <ol style="list-style-type: none"> <li>1. Global goals and defining a community health problem</li> <li>2. Analysis of a health problem: determinants, direct and indirect</li> </ol>			

		<p>contributing factors</p> <p>3. Formulation of objectives: outcome, impact, process</p> <p>Chapter 3: Intervention and strategy implementation:</p> <p>1. Selection of evidence based intervention strategies – good practice</p> <p>2. Intervention strategy design</p> <p>3. Developing a work plan and program budget</p> <p>4. Monitoring and evaluation</p> <p>Chapter 4: Intervention in the community</p> <p>5. Development of a health profile</p> <p>6. Development of a health strategy in the community</p>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	<p>Interactive teaching, lectures, exercises, seminars, interactive workshops, group practical work and field work in community</p> <p>Seminar work - Preparation of a seminar assignment on a given public health problem (seminar paper and power point presentation)</p>		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	Conditional criteria for assessment of knowledge: To get a signature the student is required to attend the theoretical, practical training and seminars and to achieve minimum points.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points	Min-max	30-50
	19.3.	Final exam: points	Min-max	24-40
			Theoretical course	3-5
			Practical course	3-5
			The grade of the subject is formed in accordance with the table of grades, based on the sum of points from all	

					activities, continuous assessment and final exam	
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)		
		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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Detels R, Karim QA, Baum F. Li L, Leyland A.H.	Oxford Textbook of Global Public Health [7th ed.]	Oxford University Press	2021
		2.	Tozija F, Spasovski M, Kapasinov B.	Guidance for planning and implementing public health programs- Part 1	Faculty of Medicine, University Ss Cyril and Methodius	2013
		<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
	22.2.	1.	Mellison M. et al.	Healthy Plan – it a tool for planning and managing public health	Centers for Disease Control	2005
		2.	Tulchinsky T, Varavikova E, Cohen MJ.	The New Public Health. 4 <sup>th</sup> Edition	New York: Elsevier	2023

Number:28

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
1.	<b>Subject</b>	<b>HEALTH POLICY</b>
2.	<b>Code</b>	MEDI 28
3.	<b>Study program</b>	General Medicine
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department for Social Medicine
5.	<b>Degree of education (first,</b>	Integrated 6-year studies

	<b>second, third cycle)</b>				
6.	<b>Academic year/semester</b>	Year	Sixth (VI)	Semester	Eleventh XI
7	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Mome Spasovski M.D., Ph.D.			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Preconditions for attending the classes: successfully completed the subject Social Medicine and Health Economics. In order to enter the final exam, the student should prepare a seminar paper (written and oral presentation).			
11.	<b>Subject program goals (competences) and study results:</b>	<p>The student acquires the following knowledge and skills:</p> <ul style="list-style-type: none"> <li>• Understanding the concept and practice of health policy</li> <li>• Differentiate between policy and politics</li> <li>• Knowledge on the development process of health policy documents</li> <li>• Knowledge on structures and roles</li> <li>• Understanding the co-creation and co-participation process in health research and health policy</li> <li>• Advocacy and health leadership in the community</li> </ul>			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <p>Chapter 1. Health Policy</p> <ol style="list-style-type: none"> <li>1. Organization, management and planning of health systems;</li> <li>2. Public health services: status and prospects;</li> <li>3. Protection of patients' rights and responsibility of healthcare workers;</li> <li>4. Biological and medical-legal aspects of public health priorities;</li> <li>5. EU-Health Policy</li> </ol> <p>Study results: The student will gain knowledge on the national legal and institutional framework on which the health care is organized; skills for critical thinking, process analysis on health policies and comparison analysis with EU policies, as well as legal literacy.</p> <p>Chapter 2. Health Reform Policy</p> <ol style="list-style-type: none"> <li>6. Globalization and influence on Public Health;</li> <li>7. 50 years of global Health Policy, focus on the main points;</li> </ol> <p>Study results: The student</p> <p>Chapter 3. Accreditation of healthcare institutions</p> <ol style="list-style-type: none"> <li>1. Quality of healthcare services</li> <li>2. Clinical guidelines and evidence-based medicine</li> <li>3. Indicators for accreditation</li> </ol>			

		<p>Study results: The student will gain practical knowledge, skills on how the process of accreditation is delivered with mix of theoretical lessons and practical field work. How the evidence-based medicine influences the health policy and vice-versa.</p> <p><b>Practical course:</b> mix of classroom discussions using the methods of study scenarios and policy documents. Role plays scenarios of national public health councils, WHO stimulation strategy assemblies.</p> <p>Study results: The students will be able to understand the role of health policy plays on population's health status, social determinants of health, the delivery and quality of health care services. Moreover, the students will be equipped and gain practical knowledge by preparing health policies to address priorities in public health and health inequalities.</p>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	<p>Theoretical lectures: interactive lessons, group work, movie preview with content from the respective field. Practical classes: seminars, case studies, demonstration, role play. Individual work: discussions, evaluation of scientific literature, critical evaluation and understanding of health policy documents, consultations in segments of interest, essays.</p>		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	<p>In order to get a signature, the student is required to attend at least 60% of the theoretical and practical classes. The grade is formed according to the rating table, based on the sum of the points from all activities.</p>		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points		min. – max. 36 - 75 points
	19.3.	Final exam: points		min. – max. 15 - 25 points

20	<b>Grading criteria (points/grade)</b>	up to 59 points	5 (five) F			
		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			
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonyms students' evaluation form for all the professors and collaborators performance, involved in the educational activities				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
	1.	Detels R, Beaglehole R, Lansang MA, Gulliford M.	Oxford Textbook of public health (5 <sup>th</sup> edition)	Oxford University Press	2009	
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	Donev D, Spasovski M, Kjosevska E, Tozija F.	Social Medicine	Skopje: UKIM, Medical Faculty	2013
		2.	Davidovski B, Tunachevski N, Pavlovska-Daneva A, Trendafilovska A, Karandzinska J, Spasovski M.	Law and Public Health	Skopje: Faculty of Law "Justinian Prima"	2009
		3.	Ministry of Health of the Republic of Macedonia	Health policies and documents	Web page: <a href="https://zdravstvo.gov.mk/#">https://zdravstvo.gov.mk/#</a>	Up to date
	4.	Maksi-Rozeno-Last., Volas RL. et all.	Public Health and Preventive Medicine	Skopje: Tabernakul	2011	

Number:29

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>
1.	<b>Subject</b>	<b>LAW AND PUBLIC HEALTH</b>
2.	<b>Code</b>	<b>MEDI 29</b>
3.	<b>Study program</b>	General Medicine

4.	<b>Institution (unit, institute, chair, department)</b>	University Ss. Cyril and Methodius in Skopje, Faculty of Medicine, Department for Social Medicine			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	First (I)	Semester	Second (II)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Mome Spasovski M.D., Ph.D.			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Successfully completed the subject Introduction to medicine. In order to enter the final exam, the student should prepare a seminar paper (written and oral presentation).			
11.	<b>Subject program goals (competences) and study results:</b>	<p>The student acquires the following knowledge and skills:</p> <ol style="list-style-type: none"> <li>1. Defining public health functions at different levels of government</li> <li>2. Define the methods available to government organizations to work with public health responsibilities and activities</li> <li>3. Use of the principles of the New Public Health in the activities of the national, state, regional and local level of administration</li> <li>4. Understanding the Macedonian healthcare system (legislation, administration, provision of health care and accreditation)</li> <li>5. Health policy and public health (impact of globalization and review of legislation)</li> <li>6. Health promotion and legislative aspects</li> <li>7. Biological and medical-legal aspects of public health priorities</li> </ol>			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <p>Chapter 1. The health legislation framework</p> <ol style="list-style-type: none"> <li>4. Health care organization and health system</li> <li>5. Public services in the Republic of Macedonia</li> <li>6. Health workforce</li> </ol> <p>Study results: The student will gain better understanding to all crucial law documents on which the concept of health care is organized in our country.</p> <p>Chapter 2. Health policy</p> <ol style="list-style-type: none"> <li>7. Health strategies and national programs, action plans</li> <li>8. Legal aspects of health promotion</li> </ol> <p>Study results:</p>			

		<p>The student will gain knowledge on the important international and national health strategies, health promotion action plans. The student will develop critical thinking with analysing such documents.</p> <p>Chapter 3. Public Health and Law</p> <ol style="list-style-type: none"> <li>9. Socioeconomic determinants of health</li> <li>10. Assessment of the health status of the population</li> <li>11. Organization, legislation and conventions of bioethical and public health priorities</li> <li>12. Current problems and challenges in public health</li> </ol> <p>Study results:</p> <p>The student will gain practical skills on how to develop a law or policy from health evaluation, identification of public health priorities and challenges, setting goals and writing the documents.</p> <p><b>Practical lessons:</b> mix of classroom discussions using the method of case scenarios/studies on:</p> <ul style="list-style-type: none"> <li>• Patients' rights,</li> <li>• Reproductive justice,</li> <li>• Structural racism and discrimination.</li> </ul> <p>Workshop on the role that law played in the public health impact of the pandemic.</p> <p>Study results:</p> <p>The student will be able to gain knowledge on:</p> <ul style="list-style-type: none"> <li>• practical knowledge on how health legislation is prepared and implemented in practice;</li> <li>• the role of law on public health programmes, pandemics and the health status of the population;</li> </ul> <p>Moreover, the student will acquire skills for critical thinking, analysing and legal literacy.</p>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	<p>Theoretical lectures: interactive lessons, group work, movie preview with content from the respective field.</p> <p>Practical classes: seminars, case studies, demonstration, role play.</p> <p>Individual work: discussions, evaluation of scientific literature, critical evaluation and understanding of law documents, consultations in segments of interest, essays.</p>		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	In order to get a signature, the student is required to attend at least 60% of the theoretical and practical classes.		

		The grade is formed according to the rating table, based on the sum of the points from all activities.				
<b>19</b>	<b>Methods of assessment</b>					
	19.1.	Tests: points			n/a	
	19.2.	Seminar paper/project, written and oral presentation: points			min. – max. 36 - 75 points	
	19.3.	Final exam: points			min. – max. 15 - 25 points	
<b>20</b>	<b>Grading criteria (points/grade)</b>		up to 59 points	5 (five) F		
			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		
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>		Anonyms students' evaluation form for all the professors and collaborators performance, involved in the educational activities.			
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Tulchinsky TH, Varavnikova EA.	The New Public Health: An introduction for the 21 <sup>st</sup> century	San Diego: Academic press	2001
		2	Detels R., Beaglehole R., Lansang MA., Gulliford M.	Oxford Textbook of public health (5 <sup>th</sup> edition)	Oxford University Press	2009
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Davidovski B, Tunachevski N, Pavlovska-Daneva A, Trendafilovska A, Karandzinska J, Spasovski M.	Law and Public Health	Skopje: UKIM, Faculty of Law	2009

Number:30

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>MIGRANT HEALTH</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 30</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	University Ss Cyril and Methodius in Skopje, Faculty of Medicine, Department of Social Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	First (I)	Semester	Second (II)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Fimka Tozija MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	None To access to the final exam the student should produce a written seminar paper and make a power point presentation.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<p>The teaching goals of this study program are to improve the knowledge of the student about migrant health and by the end of this course the student to have skills and to be able to:</p> <ul style="list-style-type: none"> <li>• Recognize the main categories of migrants and their characteristics</li> <li>• Know the main factors contributing to discrimination and poor health of migrants and limited access to health care as an obstacle for their integration in the host country</li> <li>• Know the legislation on human rights and the rights to health in Republic of North Macedonia and Europe</li> <li>• Recognize the barriers to health care especially in the host country</li> <li>• Be aware about the status of migrants globally and especially in Europe</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>At the end of the theoretical course the student will have improved knowledge and competences about the following topics:</p> <p>Chapter 1: Definitions and concepts:</p> <ol style="list-style-type: none"> <li>1. Introduction to the main categories of migrants, refugees, asylum seekers and undocumented migrants</li> <li>2. Introduction to the key concepts that lead to health inequality, such as: ethnicity, gender, race, social status, poverty, culture and illiteracy, as well as the impact of discrimination and racism on health</li> </ol> <p>Chapter 2: Migration, mobility, status and challenges:</p>			

		<p>3. Differences between migrants, asylum seekers and undocumented migrants</p> <p>4. Reasons for the current mobility and migration of the population in the world and Europe</p> <p>5. Contributing factors for poor health of migrants and refugees</p> <p>6. The current situation in Republic of North Macedonia, profile and living conditions of migrants, undocumented migrants and refugees</p> <p>Chapter 3: Legislation and policy for migrant integration and health</p> <p>7. Legislation for human rights and the rights for access to health care services for different categories (migrants, refugees, undocumented migrants) in the country and Europe</p> <p>8. Integration policy of migrants</p> <p>9. Data and research for migrants</p> <p>10. Health system response</p>		
<b>13</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	<p>Interactive teaching, lectures, exercises, seminars, interactive workshops, group practical work and field work in community</p> <p>Seminar work: preparation of a seminar assignment: seminar paper and power point presentation. Presentation and defense of the seminar work.</p>		
<b>15.</b>	<b>Total available time frame</b>	30 hours		
<b>16.</b>	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 hours
		16.3.	Practice: hours	
<b>17.</b>	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
<b>18</b>	<b>Requirements for signature</b>	To get a signature the student is required to attend the theoretical, practical training and seminars and to achieve minimum points to access the final exam		
<b>19</b>	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points	Min-max	30-50
	19.3.	Final exam: points	Min-max	24-40
			Theoretical course	3-5
			Practical course	3-5
			The grade of the subject is formed in accordance with the table of grades, based on the	

			sum of points from all activities, continuous assessment and final exam			
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)		
		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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	WHO	Health literacy: The solid facts- WHO/Europe - World	World Health Organization	2013
		2.	WHO	International migration, health and human rights	Office of the High Commissioner for Human Rights and the International Organisation for Migrants	2013
		3.	Tulchinsky T, Varalinkova E, Cohen MJ.	The New Public Health. 4 <sup>th</sup> Edition	New York: Elsevier	2023
		4.	Rechel R, Mladovsky Ph, Devillé W, Rijks B, Petrova-Benedict R, McKee M.	Migrants and the health in the European Union	European Observatory on Health Systems and Policies	2011
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	WHO/ European Commission on equity project	How health systems can address health inequities linked to migration and ethnicity	WHO	2010
2.		IOM	Summary report on the MIPEX , Health Strand and Country Reports	IOM	2016	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>CULTURAL AND STRUCTURAL COMPETENCIES OF HEALTH PROFESSIONALS</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 31</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Social Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study			
<b>6.</b>	<b>Academic year/semester</b>	Year	First (I)	Semester	Second (II)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Elena Kjosevska, Ph.D, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	There is none In order to take the final exam, the student has to write an essay on a given topic in written form.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<p><b>General purpose:</b> To strengthen the cultural and structural competencies of students to overcome inequality, disparities, invisible discrimination, as well as the influence of socio-economic factors in the health care of patients with a special focus on marginalized groups.</p> <p>Other goals:</p> <ul style="list-style-type: none"> <li>• Acquisition of knowledge, skills and techniques for practicing narrative medicine with a focus on cultural and structural competencies in health care;</li> <li>• Study of examples of inequalities in health care with special focus on vulnerable groups;</li> <li>• Sensitization for the acceptance of the rights to health and equality in the national and European context.</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<ul style="list-style-type: none"> <li>• Narrative medicine, narrative ethics and technique-concepts (health worker-patient relations, in everyday clinical practice);</li> <li>• Ethical aspects of research on humans and vulnerable populations;</li> <li>• Cultural competences - definition, the importance of cultural differences in the medical context (cultural identification, language barriers, method of communication, etc.), intercultural education;</li> <li>• Structural competencies (notion of "structural vulnerability", sources and effects of socioeconomic inequality); • Medical</li> </ul>			

		<p>responsibility for non-discrimination (in relation to patients...), attitudes, knowledge, skills;</p> <ul style="list-style-type: none"> <li>• Health system, right to health, processes of discrimination (stereotypes, prejudices, differences), principles of non-discrimination in the EU and in national frameworks;</li> <li>• Observing the phenomenon of discrimination with an appropriate approach to health protection among vulnerable groups (HIV positive people, women and children victims of violence, LGBTI people, sex workers, people who use drugs, people with disabilities, Roma, poor people, and other groups);</li> <li>• Analysis of the status of the Roma, as the most represented vulnerable groups (history, health, culture, employment, language, socio-economic status, emancipation, etc., (in European and national context);</li> <li>• The notion of equality and its assumptions: formal and essential equality between different social groups and reduction of health differences;</li> <li>• Respect for human rights to life, health, privacy, family life and non-discrimination</li> </ul>												
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program												
14.	<b>Description of the subject's study and working methods in details</b>	<p>Presentation of cases from clinical practice;  Organizing an open discussion in small groups on a given topic;  Play a role according to a given scenario;  Practicing listening techniques. writing, communication, interpretation, observation, etc.  Writing an essay on a given topic</p>												
15.	<b>Total available time frame</b>	30												
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5										
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10										
		16.3.	Practice: hours											
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	5										
		17.2.	Individual tasks: hours	5										
		17.3.	Studying at home: hours	5										
18	<b>Requirements for signature</b>	<p>In order to get a signature, the student needs to attend theoretical and practical classes and earn a minimum number of points.  The grade for the subject is formed according to the grade table, and based on the sum of the points from all activities, and the final exam.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th style="text-align: center;">Min</th> <th style="text-align: center;">max</th> </tr> </thead> <tbody> <tr> <td style="text-align: right;">Theoretical course</td> <td style="text-align: right;">points</td> <td style="text-align: center;">10</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: right;">Practical course</td> <td style="text-align: right;">points</td> <td style="text-align: center;">10</td> <td style="text-align: center;">20</td> </tr> </tbody> </table>			Min	max	Theoretical course	points	10	20	Practical course	points	10	20
		Min	max											
Theoretical course	points	10	20											
Practical course	points	10	20											
19	<b>Methods of assessment</b>													
	19.1.	Tests: points		/										

	19.2.	Seminar paper/project, written and oral presentation: points		min 25	max 35	
	19.3.	Final exam: points		Min 15	max 25	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>		Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Rita Charon	Principles and Practice of Narrative Medicine	Oxford University Press	2017
			Seth M. Holmes, Kelly R. Knight	Structural competency	PH 290 – Spring 2015, <a href="http://bit.ly/holmes_officehours">http://bit.ly/holmes_officehours</a>	2015
		3.	Jonathan M. Metzl Helena Hansen	Structural competency: Theorizing a new medical engagement with stigma and inequality Structural Stigma and Population Health	Social Science & Medicine Volume 103, Pages 126– 133	2014
		2.				
		2.				
		3.				
		22.2.	<b>Additional literature</b>			
	Number	Author	Title	Publisher	year	

		1.	Kjosevska E, Stefanovska VV, Najcevska M, Ismail Georgievska Lj, Spasovski M, Dimova C, Polozhani A, Mircevska L, Rajcanovska D.	Cultural and structural competencies of health professionals-textbook	Open Society Foundation - Macedonia	2018
		2.	Kjosevska E, Stefanovska VV, Najcevska M, Ismail Georgievska L., Spasovski M, Dimova, Polozhani A, Mircevska L, Rajcanovska D.	Cultural and structural competencies of health professionals-practicum	Open Society Foundation - Macedonia	2018
		3.	Charon Rita, Hermann Nellie, Devlin Michael.	Close Reading and Creative Writing in Clinical Education: Teaching attention, Representation and Affiliation	Washintong: AAMC; Academic medicine	2015

Number:32

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>EDUCATION WITH SIMMULATION IN PRIMARY CARE</b>			
<b>2.</b>	<b>Code</b>	MEDI 32			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of family medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Ninth (IX)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Katarina Stavrikj, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Received all the signatures from all the subjects from the eight semester. In order to take the final exam, the student has to pass the on line training, practical exercises and get a signature for completed practice and prepare a project task.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	At the end of the program the students will: <ul style="list-style-type: none"> <li>• acquire adequate theoretical and practical skills in learning through method of simulation and debriefing</li> <li>• be able to solve the most common urgent conditions I primary care</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<ul style="list-style-type: none"> <li>• Theoretical perspectives and framework for simulation in medicine</li> <li>• Ethics of healthcare simulation in primary care</li> <li>• Exploring the realism in healthcare simulation</li> <li>• Maintaining humanism in practice</li> <li>• Teamwork and non-technical skills during simulation in primary care</li> <li>• Gamification</li> <li>• Facilitating simulation in primary care</li> <li>• Strategies to manage adverse events in simulation</li> <li>• Debriefing – theory and practice</li> <li>• Common urgent conditions in GPs practice – BLS, ALS, anaphylaxis, palliative care emergency, convulsion in a child</li> </ul>			
<b>13</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, practical work			
<b>15.</b>	<b>Total available time frame</b>	30			
<b>16.</b>	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons,		5
			hours		

		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours		
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours		
		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours		
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical and practical classes and get minimum 75% from the knowledge test.			
19	<b>Methods of assessment</b>				
	19.1.	Tests: points			
	19.2.	Seminar paper/project, written and oral presentation: points			
	19.3.	Final exam: points		60-100  The grade for the subject is formed according to the grade table, based on the sum of the points of all activities, the continuous checks and the final exam.	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Students' anonymous evaluation of the subject and medical staff included in the teaching process		
22.	<b>Literature</b>				
	22.1.	<b>Mandatory literature</b>			
		Number	Author	Title	Publisher
	1.	Nestel D(Editor), Kelly ME (Editor), Jolly B (Editor), Watson M (Editor)	Healthcare Simulation Education: Evidence, Theory and Practice	Boston: Wiley-Blackwell	2017

22.2.	Additional literature				
	Number	Author	Title	Pu bli she r	Year
	1.	ERC	European Resuscitation Council Guidelines for Resuscitation	ER C	2021

Number:33

Attachment 3		Integrated cycle of studies – Subject program			
1.	Subject	IMMUNISATION			
2.	Code	MEDI 33			
3.	Study program	General medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of family medicine			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies			
6.	Academic year/semester	Year	Fifth (V)	Semester	Ninth (IX)
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Prof. Dr Katarina Stavrikj, PhD, MD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Received all the signatures from all the subjects from the eight semester. In order to take the final exam, the student has to pass the on line training, practical exercises and get a signature for completed practice and prepare a project task.			
11.	Subject program goals (competences) and study results:	Students to expand their knowledge, skills and attitudes: <ul style="list-style-type: none"> <li>• About the benefits of immunization</li> <li>• Safe vaccine application</li> <li>• For implementation of immunization in practice</li> <li>• Supervision and monitoring of the immunization process</li> <li>• Interpersonal communication about immunization</li> </ul>			
12.	Subject content in details by chapters and units, with study results for every chapter	Subject content will be organized in modules: <ul style="list-style-type: none"> <li>• Module 1 Diseases and vaccines               <ul style="list-style-type: none"> <li>• Disease for which vaccines are part of the immunization program</li> <li>• Immunization program of Macedonia: Regular and CATCH-UP Immunization Calendar</li> </ul> </li> <li>• Module 2 Cold chain               <ul style="list-style-type: none"> <li>• use of cold chain and temperature monitoring equipment</li> <li>• the basic maintenance of cold chain equipment.</li> </ul> </li> <li>• Module 3 Safety procedures during vaccination</li> </ul>			

		<ul style="list-style-type: none"> <li>• Provide safety for the patient - use of safe equipment for vaccine application</li> <li>• Prevention of health workers from needle injuries</li> <li>• Disposal of used syringes and needles</li> </ul> <ul style="list-style-type: none"> <li>• Module 4 Microplanning Making and updating a map; <ul style="list-style-type: none"> <li>• Identifying priority health centres and communities;</li> <li>• Identifying barriers to vaccination access;</li> <li>• Identifying solutions and preparing a workplan;</li> <li>• Preparing a vaccination plan;</li> <li>• Monitoring/finding children who missed scheduled vaccinations (defaulters).</li> </ul> </li> <li>• Module 5 management of the immunization process <ul style="list-style-type: none"> <li>• to inform the community in advance, before starting the vaccination</li> <li>• to set up the site for safe immunization</li> </ul> </li> <li>• Module 6 Monitoring and surveillance <ul style="list-style-type: none"> <li>• Monitoring the immunization services</li> <li>• Surveillance of vaccine-preventable diseases</li> <li>• Adverse events following immunization (AEFI)</li> </ul> </li> <li>• Module 7 Partnership with the community <ul style="list-style-type: none"> <li>• to train and motivate vaccination teams to work with community members and to improve the immunization process at every level</li> </ul> </li> <li>• Module 8 Interpersonal communication about immunization <ul style="list-style-type: none"> <li>• Continuum of vaccinate hesitancy</li> <li>• Active listening</li> <li>• Algorithms for communication</li> <li>CASE protocol for communication with hesitant parents</li> <li>• Communication with the community</li> </ul> </li> </ul>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	On-line modules, interactive teaching, practical work under mentoring in a prevention team.		
15.	<b>Total available time frame</b>	30		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to complete the on-line training, to attend the theoretical and practical classes and get minimum points.		

<b>19</b>	<b>Methods of assessment</b>					
19.1.	Tests: points				40	
19.2.	Seminar paper/project, written and oral presentation: points				20	
19.3.	Final exam: points				40 The grade for the subject is formed according to the grade table, based on the sum of the points of all activities, the continuous checks and the final exam.	
<b>20</b>	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>		Students' anonymous evaluation of the subject and medical staff included in the teaching process			
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		2.	Karam R, Rennie W, Stephanie Clayton S.	Interpersonal Communication for Immunization Training for Front Line Workers	UNICEF	2019
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
1.		WHO	Immunization in practice: a practical guide for health staff – 2015 update.	WHO <a href="http://www.who.int">Immunization in practice: a practical guide for health staff (who.int)</a>	2015	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>SMOKING CESSATION IN PRIMARY CARE</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 34</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of family medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Ninth (IX)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Katarina Stavrikj, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Received all the signatures from all the subjects from the eight semester. In order to take the final exam, the student has to pass the on line training, practical exercises and get a signature for completed practice and prepare a project task.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Subject program: <ul style="list-style-type: none"> <li>• factors that influent the smoking and the need for tobacco addiction treatment</li> <li>• Very brief advice – ask, advise, act.</li> <li>• A combined model for behavioral support and pharmacological treatment.</li> <li>• Barriers and frequently asked questions from patients.</li> <li>• E-cigarettes.</li> <li>• Motivational interview</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Students to expand their knowledge, skills and attitudes to initiate support in the process of quitting smoking in primary care setting: <ul style="list-style-type: none"> <li>• To know the harmful effects of smoking, nicotine addiction and the need for treatment.</li> <li>• To acquire knowledge and skills to provide a very brief advice in primary care practice.</li> <li>• To acquire knowledge and skills for practicing a combined model for the treatment of tobacco addiction.</li> <li>• To guide the patient through pharmacological therapy, possible combinations and their side effects.</li> <li>• To be able to prepare an individual smoking cessation plan using the combined model.</li> <li>• To understand the difficulty and complexity of the process of quitting smoking.</li> <li>• To gain knowledge about the advantages and disadvantages of E-cigarettes in quitting smoking in a patient with tobacco addiction</li> </ul>			

		<ul style="list-style-type: none"> <li>To improve knowledge and skills for the use and proper management of motivational interview in the management of a patient with tobacco addiction.</li> </ul>				
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program				
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, practical work under mentoring in a prevention team.				
15.	<b>Total available time frame</b>	30				
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15		
18	<b>Requirements for signature</b>	In order to get a signature, the student needs to attend the theoretical and practical classes and get minimum points.				
19	<b>Methods of assessment</b>					
	19.1.	Tests: points				
	19.2.	Seminar paper/project, written and oral presentation: points	15-30			
	19.3.	Final exam: points	45-70			
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)		
		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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Students' anonymous evaluation of the subject and medical staff included in the teaching process				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	ENSP	Guidelines for treating tobacco dependence	<a href="#">guidelines_2020_english_forprint.pdf (ensp.network)</a>	2020
	22.2.	<b>Additional literature</b>				
Number		Author	Title	Publisher	year	

		2.	IPCRG	PCRS Pragmatic Guides for Clinicians Diagnosis and management of Tobacco Dependency	<a href="http://iperg.org">Layout 1 (iperg.org)</a>	2019
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Number:35

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>KINESITHERAPY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 35</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Physical Medicine and Rehabilitation			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Ninth (IX)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate professor Valentina Koevska, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Filled in enrollment in IX semester			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>• Introduction to basic principles of the use of kinesitherapy in prophylaxis and in the process of medical rehabilitation.</li> <li>• Introduction with kinesitherapy methods and the means of kinesitherapy</li> <li>• Introduction with kinesitherapy as a therapeutic procedure with its own indications and contraindications</li> <li>• Link the efficacy of kinesitherapy with other physical agents</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<ul style="list-style-type: none"> <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> </ul>			

		<ul style="list-style-type: none"> <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>
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study
15.	<b>Total available time frame</b>	30 classes
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours 5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours 10
		16.3. Practice: hours
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours
		17.2. Individual tasks: hours
		17.3. Studying at home: hours 15
18	<b>Requirements for signature</b>	The student is required to actively follow all of the planned activities
19	<b>Methods of assessment</b>	
	19.1.	Tests: points 18-30
	19.2.	Seminar paper/project, written and oral presentation: points 36-60
	19.3.	Final exam: points 1 Final test points 18-30 (if they have not passed the continuous check)  The student is obliged to achieve a minimum of the expected points. In contrast, the exam is not considered.
19.4	Active participation	Theoretical course (min – max): 6-10 points  Attending the theoretical lessons 51% -60% 6 points 61% -70% 7 points 71% -80% 8 points 81% - 90% 9 points 91% - 100% 10 points

20	Grading criteria (points/grade)		Up to 59 points	5 (five) (F)		
			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)		
21.	Methods of monitoring the quality of the teaching process		Student anonymous evaluation of the subject and the teachers and collaborators participating in the teaching			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Braddom R.	Physical Medicine and Rehabilitation.	New York: Elsevier	2011
		2.	De Lisa J.	DeLisas` Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	Nikolic-Dimitrova E	Exercise therapy (Kinesitherapy), Physical Medicine and Rehabilitation	Skopje: Laserjet	2011
2.		Stojanovska M	Fundamentals of kinesitherapy	Skopje: Pergament Public	2010	

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>PHYSICAL AGENTS IN PAIN TREATMENT</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 36</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Physical Medicine and Rehabilitation			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Ninth (IX)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Erieta Nikolikj Dimitrova, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Requirement for the ninth semester fulfilled			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<p><b>Teaching goals:</b></p> <ul style="list-style-type: none"> <li>• To acquire knowledge for fundamentals of physical agents</li> <li>• To acquire knowledge for physiological and therapeutic effects of some physical modalities</li> <li>• To acquire knowledge about usage of these methods in treatment and research</li> <li>• To acquire knowledge and training for applying physical modalities in treatment of acute pain</li> <li>• To acquire knowledge and training for applying physical modalities in treatment of chronic pain</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <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>• Transcutaneous electrical nerve stimulation</li> <li>• Therapeutic ultrasound</li> <li>• Low level laser therapy</li> </ul>			

		<ul style="list-style-type: none"> <li>• Low frequency electromagnetic field</li> <li>• Shock wave therapy</li> </ul> <p><b>Practical lessons:</b> Introduction to different therapeutic physical modalities</p>	
13	<b>Interconnection between subjects</b>	There are some interconnections with mandatory subject Physical medicine and rehabilitation.	
14.	<b>Description of the subject's study and working methods in details</b>	<ul style="list-style-type: none"> <li>• Interactive teaching during lectures,</li> <li>• Independent study by using textbooks.</li> </ul>	
15.	<b>Total available time frame</b>	30 classes 15 classes - theoretical course 15 classes - home individual learning	
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours 5	
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours 10	
		16.3. Practice: hours /	
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours /	
		17.2. Individual tasks: hours /	
		17.3. Studying at home: hours 15	
18	<b>Requirements for signature</b>	The student is required to actively follow all of the planned activities. In order to get a signature, the student should obtain minimum points in theoretical course.	
19	<b>Methods of assessment</b>		
	19.1.	Tests: points	Continual assessment – 1 written (min – max) : 18-30 points
	19.2.	Seminar paper/project, written and oral presentation: points	1 Seminar paper/project (min – max): 36-60 points
	19.3.	Final exam: points	1 Final test points 18-30 (if they have not passed the continual check)  The student is obliged to achieve a minimum of the expected points. In contrast, the exam is not considered.

	19.4	Active participation	Theoretical course (min – max): 6-10 points  Attending the theoretical lessons 51% -60% 6 points 61% -70% 7 points 71% -80% 8 points 81% - 90% 9 points 91% - 100% 10 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.			
20	Grading criteria (points/grade)		Up to 59 points	5 (five) (F)		
			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)		
21.	Methods of monitoring the quality of the teaching process		Student's anonymous evaluation of the subject and teaching staff who are involved in the education.			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Braddom R.	Physical Medicine and Rehabilitation.	New York: Elsvier	2011
		2.	De Lisa J.	DeLisas' Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011
	22.2.	<b>Additional literature</b>				
Number		Author	Title	Publisher	year	
1.		Nikolic-Dimitrova E	Exercise therapy (Kinesitherapy), Physical Medicine and Rehabilitation	Skopje: Laserjet	2011	

		2.	Teaching materials on English for students prepared by the faculty
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Number:37

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>BALNEOCLIMATOTHERAPY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 37</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Physical Medicine and Rehabilitation			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	V	Semester	IX
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof. Biljana Mitrevska, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Requirement for the ninth semester fulfilled			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Teaching goals: <ul style="list-style-type: none"> <li>• To get knowledge of the natural sources of some physical agents (sun, sea, mineral water, peloids);</li> <li>• To get knowledge of the methods of treatment in balneoclimatotherapy</li> <li>• To get knowledge with the mineral waters, species, their effects on the patients and their application</li> <li>• To have the ability to apply mineral water in the treatment of the diseased and the injured</li> <li>• To get to know the role of climatotherapy in the treatment</li> <li>• To become familiar with peloidotherapy, her activity and application</li> <li>• To know about thalassotherapy</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<ul style="list-style-type: none"> <li>• Mineral waters, classification, mechanism of action, methods of application</li> <li>• Peloidotherapy, peloid forms, their deposit, preparation and regeneration</li> <li>• Physico-chemical properties of peloid, methods and techniques for application</li> <li>• Climatotherapy, climatic factors, climate conditions and their effects on the body</li> <li>• Thalassotherapy, coastal climate, sea water and its effects on the body</li> <li>• Heliotherapy</li> </ul>			

		<ul style="list-style-type: none"> <li>Inhalation therapy</li> <li>Spa treatments in Macedonia</li> </ul>	
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program	
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching, lectures, independent assignments, home study	
15.	<b>Total available time frame</b>	30 classes	
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3. Practice: hours	
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours	
		17.2. Individual tasks: hours	7
		17.3. Studying at home: hours	8
18	<b>Requirements for signature</b>	<p>The student is required to actively follow all of the planned activities.</p> <p>In order to get a signature, a student is required to attend the theoretical classes and to get a minimum points.</p>	
19	<b>Methods of assessment</b>		
	19.1.	Tests: points	<b>Continual assessment</b> min-max 18-30 points
	19.2.	Seminar paper/project, written and oral presentation: points	1 seminar paper/project points Min-max 36-60
	19.3.	Final exam: points	1 Final test points 18-30 (if they have not passed the continuous check)  The student is obliged to achieve a minimum of the expected points. In contrast, the exam is not considered.
	19.4	Active participation	<p>Theoretical course min – max 6-10</p> <p>Attending the theoretical lessons 51% -60% 6 points 61% -70% 7 points 71% -80% 8 points 81% - 90% 9 points 91% - 100% 10 points</p> <p>The grade for the subject is formed according to the</p>

						rating table, based on the points from all the activities, the continuous checks and the final exam.
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)			
21.	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the subject and the teachers and collaborators participating in the teaching			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Braddom R.	Physical Medicine and Rehabilitation.	New York: Elsivier	2011
	2.	De Lisa J.	DeLisas` Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011	
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	Nikolik-Dimitrova E. Mitrevska B, Koevska V	Balneoclimatotherapy	Skopje: UKIM, Medical Faculty	2021
		2.	Nikolik-Dimitrova E	Basics of Physical Therapy	Skopje: Laser Jet, RM	2011
	3.	Mihajlovik V	Physical Therapy	Rijeka: Obodsko slovo	2002	

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>FOOD SAFETY AND HEALTH RISKS</b>			
<b>2.</b>	<b>Code</b>	MEDI 38			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Hygiene			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Third (III)	Semester	Fifth (V)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. D-r Gordana Ristovska, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam in hygiene			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Adoption of the knowledge, skills, and basic principles for food contaminants, food additives, genetically modified food, measures and systems for early detection and reporting, to understand relation between climate change and new emerging food borne diseases.			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Microbiological contaminants in food, analysis of outbreaks caused by food contaminated with microbial agents;</li> <li>• Chemical agents in food, chronic exposure and effects, incidents with food contaminated with chemicals</li> <li>• Genetically modified food and expected effects in humans</li> <li>• Food allergy and food intolerance</li> <li>• New emerging food borne diseases and public health</li> <li>• Practical teaching:</li> <li>• Visit and introduction to food safety testing laboratories at the Institute of Public Health with emphasis on microbiological testing, testing of contaminants, additives, testing of food contact materials.</li> <li>• Seminar work: analysis of cases of unsafe food that represented a regional or global threat to public health.</li> </ul>			
<b>13.</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Lecturing, exercises/seminars			
<b>15.</b>	<b>Total available time frame</b>	30 hours			



		3.	Food and Agriculture Organization	Climate change: Unpacking the burden on food safety.	FAO	2020
	22.2.	Additional literature				
		Number	Author	Title	Publisher	year
		1.	Kochubovski M, Ristovska G, Spiroski I, Petrova A.	Manual for hygiene and environmental health	Skopje, Faculty of Medicine	2021
		2.	WHO Regional Office for Europe	A healthy environment in the WHO European Region: why it matters and what steps we can take to improve health.	WHO Regional Office for Europe; Copenhagen	2023

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>OBESITY AND PUBLIC HEALTH</b>			
2.	<b>Code</b>	MEDI 39			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of of Nutrition at the Institute of Public Health			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Third (III)	Semester	Fifth (V)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Igor Spiroski, MD, PhD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Precondition for attending the classes: passed exam of Hygiene Student must fulfill all given assignments before taking the exam.			
11.	<b>Subject program goals (competences) and study results:</b>	After completing the program, the student will gain specific knowledge related to public health aspects of obesity as a risk factor for occurrence of non-communicable diseases (NCDs).			

		<p>The student will gain skills in:</p> <ul style="list-style-type: none"> <li>• Measurements to prove existence of overweight and obesity;</li> <li>• Measurements of body composition;</li> <li>• Influence of nutrition for obesity;</li> <li>• Influence of environment and lifestyle for obesity;</li> <li>• Burden of obesity for healthcare system;</li> <li>• Communication related to obesity;</li> <li>• Creation of evidence based policy for obesity;</li> <li>• Public health interventions to reduce the risks of obesity.</li> </ul>		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<ul style="list-style-type: none"> <li>• Define and classify obesity in children and adults – cut-offs;</li> <li>• Use tool for defining and classifying of obesity – tools and softwares;</li> <li>• Assess risks for occurrence obesity related to nutrition, environment and lifestyle – family and environment burden;</li> <li>• Acquire knowledge regarding body composition and health risks – methods of assessment;</li> <li>• Assess the public health risk related to obesity – steps for performing;</li> <li>• Explore the public health interventions for reducing the prevalence of obesity – review the evidence.</li> </ul>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	<p>Theoretical course: lectures, interactive teaching, group work, following news and trends on the subject.</p> <p>Practical course: seminars, exercises, tools for assessment of risks, simulations, analysis of cases.</p> <p>Individual: discussions, literature search and analysis, consultations regarding specific individual interests, essays, project tasks.</p>		
15.	<b>Total available time frame</b>	30 teaching hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	6
		17.2.	Individual tasks: hours	4
		17.3.	Studying at home: hours	5
18	<b>Requirements for signature</b>	<p>Student must be present at course activities.</p> <p>Student is graded according to the announced criteria.</p>		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		40
	19.2.	Seminar paper/project, written and oral presentation: points		20
	19.3.	Final exam: points		40
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)

		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)			
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>	Students' evaluation for the course content and teachers' performance				
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Lobstein T, Brinsden H.	Obesity: missing the 2025 global targets	World Obesity Federation	2020
		2.	Moini J, Ahangari R, Miller C, Samsam M.	Global health complications of obesity	New York: Elsevier	2020
		3.	De Bruyne L, Pinna K.	Nutrition for health and health care	Boston: Cengage	2020
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	Institute of Public Health	Dietary guidelines for the population of the Republic of Macedonia	IPH	2014
		2.	Kochubovski M, Ristovska G, Spiroski I, Petrova A.	Practicum of Hygiene and environmental health	UKIM Faculty of Medicine	2021
		3.	World Health Organization	Monitoring and restricting digital marketing of unhealthy products to children and adolescents	WHO	2019
		4.	World Health Organization	Report of the commission on ending childhood obesity	WHO	2016

Attachment 3		Integrated cycle of studies – Subject program			
1.	Subject	ESSENTIALS AND BASIC IN AESTHETIC SURGERY			
2.	Code	MEDI 40			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of surgery			
5.	Degree of education (first, second, third cycle)	Integrated 6-year study			
6.	Academic year/semester	Year	Fifth (V)	Semester	Tenth (X)
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Prof. Smilja Gjorgova Tudzarova, PhD, MD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam Surgery			
11.	Subject program goals (competences) and study results:	Students to become successful plastic and reconstructive and aesthetic surgeons			
12.	Subject content in details by chapters and units, with study results for every chapter	<p>Theoretical course: To introduced the students with the :</p> <ul style="list-style-type: none"> <li>• Basic Principles of Aesthetic Surgery</li> <li>• Basic distinctions between plastic, reconstructive and microsurgery</li> <li>• Basic Skills</li> <li>• Basic of the surgical kits for suture</li> </ul> <p>Practical course: working in small operation theatre one day surgery under supervizor</p>			
13.	Interconnection between subjects	Related to all subjects in the study program			
14.	Description of the subject's study and working methods in details	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study			
15.	Total available time frame	30 hours			
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours	.	
17.	Other forms of activities	17.1.	Project tasks: hours	5	
		17.2.	Individual tasks: hours	/	
		17.3.	Studying at home: hours	10	
18.	Requirements for signature				
19.	Methods of assessment				
	19.1.	Tests: points	There is only oral exam		

	19.2.	Seminar paper/project, written and oral presentation: points	Students are assigned to do a seminar work,			
	19.3.	Final exam: points	/			
20	Grading criteria (points/grade)		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Evaluation two ways			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Neligan P, Matarasso PR	Plastic Surgery I – IV Vol.	New York: Elsevier	2018
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
1.		Townsend CM, Beauchamp D.	Sabiston textbook of surgery	New York: Saunders	2008	

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>AESTHETIC SURGERY –ADVANCED TRENDS</b>			
2.	<b>Code</b>	<b>MEDI 41</b>			
3.	<b>Study program</b>	General medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Surgery			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Tenth (X)
7.	<b>ECTS credits</b>				
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Smilja Tudjarova Gjorgova, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Filled condition for X semester			

11.	<b>Subject program goals (competences) and study results:</b>	Students to become successful surgeons		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>Theoretical course:  To introduced the students with the surgical approaches for:  Blepharoplasty, Rhinoplasty, Facelifting, TGL, Neck lifting, Lipofilling faciei et corporis, Liposuctio faciei et corporis, Breast surgery, Abdominoplasty, Brachioplasty, Thight lifting, Transgender Surgery.</p> <p>Practical lessons: Life Surgery</p>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, and practical application of basic surgery skills		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	10
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3.	Practice: hours	5
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	
18	<b>Requirements for signature</b>	To be present on 51% of all lessons		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points	There is only oral exam	
	19.2.	Seminar paper/project, written and oral presentation: points	Seminars are dedicated during the theoretical course, including no points, only (passed)	
	19.3.	Final exam: points	There is only oral exam	
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)
		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)
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject, the teachers and collaborators participating in the teaching		

22.	<b>Literature</b>				
	22.1.	<b>Mandatory literature</b>			
		Number	Author	Title	Publisher
	1.	Neligan P, Matarasso PR	Plastic Surgery I – IV Vol.	New York: Elsevier	2018
	22.2.	Additional literature			
		Number	Author	Title	Publisher
1.	Townsend CM, Beauchamp D.	Sabiston textbook of surgery	New York: Saunders	2008	

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>FORENSIC TRAUMATOLOGY</b>			
2.	<b>Code</b>	<b>MEDI 42</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Surgery			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Tenth (X)
7	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. dr. Viktor Kamiloski, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Filled condition for X semester			
11.	<b>Subject program goals (competences) and study results:</b>	<p>The goal of the subject program in the subject Forensic Traumatology is to enable students to acquire in-depth knowledge of expertise in the field of traumatology that is performed for the needs of court proceedings, as well as with specific skills for applying that knowledge in practice. Special tasks of this program are:</p> <ul style="list-style-type: none"> <li>to enable students to independently identify and critically analyze the basics of trauma expertise for the needs of court proceedings.</li> <li>to develop skills for applying the acquired knowledge in practice.</li> </ul>			

		<ul style="list-style-type: none"> <li>to independently perform a medical examination on the injured and for the needs of the medical expertise.</li> </ul> <p>To achieve these goals and tasks, the subject program will process the theoretical aspects of the traumatological expertise, and then will focus on their practical application.</p>	
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>The content of this elective includes three sections:</p> <ol style="list-style-type: none"> <li>General part: Introduction and concept. The history of medical expertise. Acquaintance of medical experts with different forms of non-material damage. Expert and expertise. Medical qualification of bodily injuries. Medical-traumatological examination of the injured in a traffic accident. Objectification of the resulting permanent consequences with trauma point systems (scores). The role of the traumatologist in the examination of physical pain, fear, aesthetic impairment and daily activities. The role of the traumatologist in insurance claims.</li> <li>Special part: Forensic-traumatological expertise of the musculoskeletal system-upper and lower extremity; Injuries of the spinal column and pelvis in forensic traumatological examinations; Craniocerebral injuries and injuries to the facial region in expert examinations; Expertise on thoracic and abdominal injuries; Expertise on the consequences of skin injuries and burns.</li> <li>Practicum on measurement of range of motion of joints (ROM) and objectification of disability. Measurement of upper (shoulder, elbow, wrist) and lower limb (hip, knee, ankle) movements, spine (neck and lower back) and pelvis. Acquaintance with the basic principles of forensic-traumatological expertise. Formulation and setting of the same and the role of the expert in preparation of the expert's evaluation report and opinion for the needs of non-material and insurance claims</li> </ol>	
<b>13</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program	
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, reviewing of scientific literature, independent preparation of seminar paper	
<b>15.</b>	<b>Total available time frame</b>	30 hours	
<b>16.</b>	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	10
		16.3. Practice: hours	
<b>17.</b>	<b>Other forms of activities</b>	17.1. Project tasks: hours	
		17.2. Individual tasks: hours	
		17.3. Studying at home: hours	15
<b>18</b>	<b>Requirements for signature</b>	Completed practical lessons and accepted seminar paper	
<b>19</b>	<b>Methods of assessment</b>		

	19.1.	Tests: points	40-60			
	19.2.	Seminar paper/project, written and oral presentation: points	20-40			
	19.3.	Final exam: points				
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>		Student anonymous evaluation of the subject and the teachers and associates who participate in teaching			
22.	<b>Literature</b>					
	<b>Mandatory literature</b>					
		Number	Author	Title	Publisher	Year
	22.1.	1.	Browner BD, Jupiter JB, Levine AM, Trafton PG	Seletal trauma. 4th edition.	Philadelphia: Elsevier Science - Saunders	2008
		2.	Lerner A, Reis D, Soudry M.	Severe Injuries to the Limbs: Staged Treatment	Berlin Heidelberg New York: Springer	2007
	<b>Additional literature</b>					
	Number	Author	Title	Publisher	Year	
22.2.	2.	European Transport Safety Council.	Transport safety performance in the EU: a statistical overview.	Brussels: European Transport Safety Council	2003	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>WRIST AND HAND SURGERY</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 43</b>			
<b>3.</b>	<b>Study program</b>	General medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Surgery			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Tenth (X)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. dr. Viktor Kamiloski, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Filled condition for X semester			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Introduction to the wrist and hand surgery			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>Content of the subject program:</p> <ul style="list-style-type: none"> <li>• historical perspectives of the arm and hand injuries, epidemiology - applied surgical anatomy of the arm and hand. Biomechanics and kinematics of the wrist. Graphic representation and photographs of surgical approaches</li> <li>• diagnostic procedures for wrist and hand injuries (X-ray, CT, MRI, ultrasound, EMG, etc.),</li> <li>• organization of an operating room for hand surgery, regional block anesthesia, RIVA and local anesthesia with technique,</li> <li>• distal radius fractures, classification systems - tests to assess the outcome of distal radius fractures (radiological, functional and subjective),</li> <li>• surgical treatment of distal radius fractures,</li> <li>• malunion of distal radius fractures and corrective osteotomies. Treatment of complications of distal radius fractures,</li> <li>• wrist arthroscopy,</li> <li>• -soft tissue associated wrist injuries (TFCC, SLIO, LTIO)</li> <li>• injuries of the distal radioulnar joint. Surgical treatment and operative techniques,</li> <li>• fractures and dislocations of carpal bones (Dg and treatment of fractures and nonunion of the scaphoid bone. Dg and treatment of lunate dislocations. Dislocations and instability of the carpus DISI, VISI),</li> <li>• fractures of the metacarpal bones and phalanges of the hand, diagnosis, indications, surgical treatment,</li> </ul>			

		<ul style="list-style-type: none"> <li>• compressive neuropathies of the median nerve, ulnar nerve,</li> <li>• complex regional pain syndrome, diagnosis and treatment,</li> <li>• Dupuytren's and other contractures, osteoarthritis, rheumatoid arthritis of the hand, possibilities for corrective surgical interventions,</li> <li>• modern rehabilitation program and exercises for wrist and hand injuries,</li> <li>• soft tissue and tendon injuries of the hand with reconstruction and replantation,</li> <li>• - infections of the arm and hand</li> </ul>		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive lectures, reviewing of scientific literature, independent preparation of seminar paper		
15.	<b>Total available time frame</b>	180		
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5	
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3. Practice: hours		
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours	5	
		17.2. Individual tasks: hours	5	
		17.3. Studying at home: hours	5	
18	<b>Requirements for signature</b>	Completed practical lessons and accepted seminar paper		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points	40 - 60	
	19.2.	Seminar paper/project, written and oral presentation: points	20- 40	
	19.3.	Final exam: points		
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)
			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)
21.	<b>Methods of monitoring the quality of the teaching process</b>	Student anonymous evaluation of the subject and the teachers and associates who participate in teaching		
22.	<b>Literature</b>			

		<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
<b>22.1.</b>	1.	David Slutsky	Principles and practice of wrist surgery	Philadelphia: Saunders	2010	
	2.	Green et al.	Green's operative hand surgery	New York: Elsevier	2005	
<b>22.2.</b>		<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
	1.	Jupiter J, Ring D	AO Manual of fracture management: Hand and Wrist	New York: Thieme	2004	

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Attachment 3		Integrated cycle of studies – Subject program			
<b>1.</b>	<b>Subject</b>	<b>MORPHO-FUNCTIONAL CHARACTERISTICS OF SPERMATOZOA</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 44</b>			
<b>3.</b>	<b>Study Program</b>	General Medicine			
<b>4.</b>	<b>Institution (Unit, Institute, Chair, Department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Medical Histology and Embryology			
<b>5.</b>	<b>Degree of education (first,second or third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Second (II)	Seme ster	Fourth (IV)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Ass. Prof. Irena Kostadinova Petrova, M.D. PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam in Histology and Embryology 2 Final exam: To apply for final exam, student has to submit seminar paper in word and power point format.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>Study of the structural and functional characteristics of sperm in human ejaculate</li> <li>Microscopic analysis of the sperm population on native and dyed preparations.</li> </ul>			

12.	<b>Subject content in details by chapters and units, with study results for every chapter</b> <b>Theoretical and laboratory practice classes:</b>  -	<ul style="list-style-type: none"> <li>• Spermatogenesis and spermiogenesis</li> <li>• Morphologic characteristics of spermatozoa</li> <li>• Methods for determining the concentration of sperm in the ejaculate</li> <li>• Methods for determining the motility of sperm in the ejaculate</li> <li>• Methods for determining the morphology of sperm in the ejaculate</li> <li>• Deviations from normal morpho-functional characteristics of sperm and the appearance of oligozoospermia, asthenozoospermia and teratozoospermia</li> <li>• Microscopic analysis of the sperm population on native preparations</li> <li>• Microscopic analysis of the sperm population on dyed preparations</li> </ul> Seminar papers/project: Selected parts of morpho-functional characteristics of spermatozoa									
13.	<b>Interconnection between subjects</b>										
14.	<b>Description of the subject's study and working methods in details</b>	<ul style="list-style-type: none"> <li>• Through visual presentation during accentuated concept lectures, study-goal oriented learning and interactive teaching.</li> <li>• Through microscopic analyses of spermatozoa (workshop)</li> <li>• Through seminar projects</li> </ul>									
15.	<b>Total available time frame:</b>	30 hours									
16.	<b>Forms of teaching activities</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">16.1.</td> <td style="width: 70%;">Lectures - theoretical lessons, hours</td> <td style="width: 20%; text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">16.2.</td> <td>Practical lessons (laboratory, auditory), seminars, team work: hours</td> <td style="text-align: center;">10</td> </tr> <tr> <td style="text-align: center;">16.3.</td> <td>Practice: hours</td> <td></td> </tr> </table>	16.1.	Lectures - theoretical lessons, hours	5	16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	16.3.	Practice: hours	
16.1.	Lectures - theoretical lessons, hours	5									
16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10									
16.3.	Practice: hours										
17.	<b>Other forms of activities</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">17.1.</td> <td style="width: 70%;">Projects tasks: hours</td> <td style="width: 20%;"></td> </tr> <tr> <td style="text-align: center;">17.2.</td> <td>Individual tasks: hours</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">17.3.</td> <td>Studying at home learning</td> <td style="text-align: center;">10</td> </tr> </table>	17.1.	Projects tasks: hours		17.2.	Individual tasks: hours	5	17.3.	Studying at home learning	10
17.1.	Projects tasks: hours										
17.2.	Individual tasks: hours	5									
17.3.	Studying at home learning	10									
18.	<b>Requirement for signature</b>	Conditional criteria for signature:  To take active participation in all the teaching activities.  The final exam is a combination of both seminar paper, workshop 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.				
<b>19.</b>	<b>Method of assessment</b>					
	19.1	Tests: points				
	19.2	Seminar paper/project, written and oral presentation: points				
	19.3	Final exam:	<p>Oral presentation 15-25 points</p> <p>The final exam is a combination of both seminar paper, workshop and final examination.</p> <p>(power point presentation of one topic from the workshop material)</p> <p>(word document on the same topic)</p> <p>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.</p>			
<b>20.</b>	<b>Grading criteria (points / grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
<b>21.</b>	<b>Method of monitoring the quality of teaching process</b>	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
<b>22.</b>	<b>Literature</b>					
	Mandatory literature					
		Number	Author	Title	Publisher	Year
	<b>22.1.</b>	1.	Ross MH, Wojciech P	Histology, Text and atlas	Philadelphia: Lippincott, Williams and Wilkins	2023
		2.	Junqueira JK, Carneiro H	Basic histology, Text and atlas	Chicago: McGraw Hill	2021
		3.	Moore KL, Persaud TVN	The developing human Clinically oriented embryology	Mumbai: Elsevier	2012
4.		Teaching materials on English for students prepared by the faculty				
<b>22.2.</b>	Additional literature					

	Number	Author	Title	Publisher	Year
	1.	Bojovic S.	Andrologija, plodnost i neplodnost muskarca	Niksic: NIO"Univerzitetna rijec"	1986
	2.	www.histologyguide.com	on-line learning programme		
	3.	www.biolucida.com	on-line learning programme		

Number:45

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>MANAGEMENT OF CORONAVIRUS DISEASE 2019 (COVID-19) IN HOSPITALIZED PATIENTS</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 45</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Infectology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh(VII)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof.Krsto Grozdanovski, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Criteria meet for enrollment of the seventh semester. In order to take the final exam, the student should obtain the minimum points from theoretical course, practical lessons and seminar.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	Studying the characteristics and possibilities of treating COVID-19 in hospital patients with a severe/critical form of the disease			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Theoretical teaching <ul style="list-style-type: none"> <li>• Evaluation of clinical and laboratory characteristics of patients with COVID-19 associated with a severe clinical picture</li> <li>• General therapeutic approach and possibilities for specific therapy</li> <li>• Sepsis in patients with COVID-19</li> <li>• Treatment of hypoxia, acute respiratory distress syndrome and other complications</li> <li>• Management of pregnant women</li> </ul>			

		<ul style="list-style-type: none"> <li>Access to patients with HIV</li> </ul> Hands-on teaching: Management of patients with COVID-19 Seminar: Selected parts of SARS-CoV-2 infection		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures and practical trainings, seminars		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	5 hours 5 hours
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	<b>Obligatory criteria:</b> 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.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points	max Seminar work* 30	min- points 25-
		Active participation	max Theoretic lectures* 10-20 Practical lectures** 10-20  * presence in the theoretical course 51%-60% 1 point 61%-70% 1,5 points 71%-85% 2 points 86%- 100% 2,5 points	min-
	19.3.	Final exam: points	30	18-
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)
		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)	
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.		
<b>Literature</b>				
<b>22.1.</b>	<b>Mandatory literature</b>			
	Number	Author	Title	Publisher
	1.	Cohen J, Powderly WG, Opal SM.	Infectious Diseases, 4 <sup>th</sup> edition	New York: Elsevier
	2.	Bennett JE, Dolin R, Blaser MJ	<b>Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases</b>	New York: Elsevier
<b>22.2.</b>	Additional literature			
	Numbe	Author	Title	Publisher
	1.	World Health Organization	Clinical management of COVID-19	World Health Organization
	1.	Centers for Disease Control and Prevention	2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals	CDC
	2.	Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill
			Year	
			2017	
			2019	
			2020	
			2020	
			2022	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>COVID 19 AND INFLUENZA SIMILARITIES AND DIFFERENCES</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 46</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Infectology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh(VII)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Associate Prof. Marija Cvetanovska PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Criteria meet for enrollment of the seventh semester. In order to take the final exam, the student should obtain the minimum points from theoretical course, practical lessons and seminar.			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>Studying the characteristics, similarities and differences between two viral diseases, Covid and Influenza, in order to diagnose them more easily.</li> <li>Demonstration and practical work of cases with Influenza and comparison with the clinical picture, diagnosis and therapy of both diseases.</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Theoretical course:</b> <ul style="list-style-type: none"> <li>Clinical and epidemiological characteristics of Covid and Influenza similarities and differences</li> <li>Characteristics of pathogenetic mechanisms in the occurrence of both diseases</li> <li>Human immune response and susceptibility to infection</li> <li>Historical overview of epidemics and pandemics in influenza, causes and manner of their occurrence</li> <li>Diagnostic protocol for Covid and Influenza</li> <li>Possibilities and availability of antiviral therapy in Covid 19</li> <li>Possibilities and benefits of the application of immunomodulatory therapy in Covid 19</li> <li>Immunoprophylaxis - Vaccine prophylaxis</li> <li>Prevention of Covid 19 and Influenza</li> <li>Clinical characteristics and severity of the clinical picture of Covid 19 and Influenza in childhood</li> <li>Factors affecting the severity of the clinical picture</li> </ul>			

		<ul style="list-style-type: none"> <li>Covid 19 and Influenza - therapeutic approach</li> </ul> Practical teaching: Treatment of patients with Influenza. Seminar: Selected parts of Covid 19 and Influenza. Practical course Mastering the clinical skills and usage of the acquired theoretical knowledge		
13	<b>Interconnection between subjects</b>	Related to all subjects in the study program		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures and practical trainings, seminars		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	5 5
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	<b>Obligatory criteria:</b> 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.		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points	min-max Seminar work*	points 25-30
		Active participation	min-max Theoretic lectures* 10-20 Practical lectures** 10-20	points points
			* presence in the theoretical course 51%-60% 1 point 61%-70% 1,5 points 71%-85% 2 points 86%- 100% 2,5 points	
19.3.	Final exam: points		18-30	
20	<b>Grading criteria (points/grade)</b>	Up to 59 points		5 (five) (F)
		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)			
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.				
<b>22.</b>	<b>Literature</b>					
	<b>22.1.</b>	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Cohen J, Powderly WG, Opal SM.	Infectious Diseases, 4 <sup>th</sup> edition	New York: Elsevier	2017
		2.	Bennett JE, Dolin R, Blaser MJ	<b>Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases</b>	New York: Elsevier	2019
	3.	Centers for Disease Control and Prevention	2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals	CDC	2020	
	<b>22.2.</b>	<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
		2.	World Health Organization	Clinical management of COVID-19	World Health Organization	2020
		3.	Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022

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<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>SLEEP DISORDERS AND INSOMNIA</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 47</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Department of psychiatry and medical psychology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Nensi Manusheva, PhD, MD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Related to all subjects in the study program			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>• Acquiring knowledge about sleep medicine</li> <li>• Diagnostic process of sleep disorders</li> <li>• Classification of sleep disorders in ICD-10/ ICD-11 and ICSD-3</li> <li>• Pharmacological and non-pharmacological treatment</li> <li>• Cognitive behavior therapy for insomnia</li> </ul>			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Chronobiology,</li> <li>• Physiology of sleep</li> <li>• Clasifficaton, diagnostics and treatment of sleep diorders</li> <li>• Polisomnography/actigraphy</li> </ul> <p>Practical lessons and exercises:</p> <ul style="list-style-type: none"> <li>• taking detailed history</li> <li>• sleep diary</li> <li>• use of scales for evaluation (e.g. ESS, etc)</li> </ul>			
<b>13</b>	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Lectures, Interactive courses, Seminars, Project activities, Presentations			
<b>15.</b>	<b>Total available time frame</b>	30 hours			
<b>16.</b>	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours		

17.	<b>Other forms of activities</b>		17.1.	Project tasks: hours	5	
			17.2.	Individual tasks: hours	5	
			17.3.	Studying at home: hours	5	
18	<b>Requirements for signature</b>		Regular attending of teaching courses and practical lessons and continuous test (minimum 60%)			
19	<b>Methods of assessment</b>					
	19.1.	Tests: points		/		
	19.2.	Seminar paper/project, written and oral presentation: points		10-20		
	19.3.	Final exam: points		41-80		
20	<b>Grading criteria (points/grade)</b>		Up to 59 points		5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>		Revising knowledge and student reflections. Student anonymous evaluation of the subject and the teachers and associates who participate in teaching			
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Kaplan & Sadock	Kaplan & Sadock's Comprehensive textbook of psychiatry (vol. 1) Eight edition	Philadelphia: Lippincott & Williams	2005
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
		1.	WHO	ICD-11 (07 – Sleep-wake disorders)	WHO	2023
		2.	Manusheva N.	Authorized lectures at the Department for psychiatry and medical psychology		

Number:48

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>IMAGING IN SPORT INJURIES OF MUSCULOSKELETAL SYSTEM</b>			
2.	<b>Code</b>	MEDI 48			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Radiology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Eighth (VIII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Violeta Vasilevska Nikodinovska, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam of Radiology. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.			
11.	<b>Subject program goals (competences) and study results:</b>	<b>Aims of the course program (competences):</b> Student should obtain knowledge for sports injuries of all joints of the extremities, with its presentation on plain film, CT and MRI			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Contents of the course program:</b></p> <p><b>Theoretical course:</b></p> <ul style="list-style-type: none"> <li>• Sports injuries of the shoulder</li> <li>• Elbow injuries</li> <li>• Hand and wrist injuries</li> <li>• Sports injuries of the hip</li> <li>• Knee injuries,</li> <li>• Ankle and foot injuries</li> </ul> <p><b>Practical course:</b> Protocols for examination of sports injuries on each joint.</p> <p><b>Seminar paper:</b> Case presentation with differential diagnosis</p>			
13.	<b>Interconnection between subjects</b>	Related to all subjects in the study program			
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theory), practical exercises, seminar paper			
15.	<b>Total available time frame</b>	30 hours			
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours	

		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	Exercises 5 hours Seminars 5 hours	
		16.3.	Practice: hours		
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours		
		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours	15 hours	
18	<b>Requirements for signature</b>	<b>Requirements for signature</b> <b>Conditional criteria:</b> 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. Theoretical course 4-10 points Practical course 4-10 points			
19	<b>Methods of assessment</b>				
	19.1.	Tests: points		min.-max. 12 - 20	
	19.2.	Seminar paper/project, written and oral presentation: points		min.- max. Seminar paper points 25 - 35	
	19.3.	Final exam: points		min.- max. Oral exam points 15 – 25	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)	
			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)	
21.	<b>Methods of monitoring the quality of the teaching process</b>	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process			
22.	<b>Literature</b>				
	22.1.	<b>Mandatory literature</b>			
		Number	Author	Title	Publisher
		1.	Stoller DW, Tirman P, Bredella M, Beltran S, Bransetter R, Blease S	Diagnostic Imaging Orthopedics	Solt Lake City: AMIRSYS

		2.	Manaster BJ, Andrews C, Crim J, Grossman J, Miller T, Petersilge C, Roberts C, Rosenberg Z, Sanders RK	Diagnostic and surgical imaging anatomy. Musculoskeletal	Solt Lake City: AMIRSYS	2006
		<b>Additional literature</b>				
		Number	Author	Title	Publisher	Year
	22.2.	1.	Shahabpour M, Isaac A, De Jonge M.	MRI wrist and hand	Horn: Breitenseher Publisher	2018

Number:49

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>IMAGING OF MUSCULOSKELETAL BONE TUMORS</b>			
2.	<b>Code</b>	<b>MEDI 49</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Radiology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fifth (V)	Semester	Ninth (IX)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Violeta Vasilevska Nikodinovska, PhD, MD			
9.	<b>Language of the study</b>	English			
10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam of Radiology. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.			
11.	<b>Subject program goals (competences) and study results:</b>	Aims of the course program (competences): Student to obtain knowledge for early diagnosis of bone tumor, differentiation of different type of bone tumors and according their imaging presentation			
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Contents of the course program:</b> <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• Plain film for diagnosis of bone tumor</li> <li>• CT and MRI in diagnosis of bone tumors</li> </ul>			

		<ul style="list-style-type: none"> <li>Systematic analysis of different types of bone tumors, imaging appearance, localization on the skeleton and within the bone, imaging presentation of each tumor on all imaging methods like plain film, CT and MRI</li> <li>Imaging guided biopsy of bone tumors</li> </ul> <p><b>Practical course:</b> Multidisciplinary team meetings attendance with active participation</p> <p><b>Seminar paper:</b> Case presentation with discussion of differential diagnosis.</p>		
13	<b>Interconnection between subjects</b>	Related to all other subjects		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theory), practical exercises, seminar paper		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1. Lessons – theoretical lessons, hours	5 hours	
		16.2. Practical lessons (laboratory, auditory), seminars, team work: hours	Exercises 5 hours Seminars 5 hours	
		16.3. Practice: hours		
17.	<b>Other forms of activities</b>	17.1. Project tasks: hours		
		17.2. Individual tasks: hours		
		17.3. Studying at home: hours	15 hours	
18	<b>Requirements for signature</b>	<p><b>Requirements for signature</b></p> <p><b>Conditional criteria:</b></p> <p>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.</p> <p>Theoretical course 4-10 points</p> <p>Practical course 4-10 points</p>		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points	min.-max. 12 - 20	
	19.2.	Seminar paper/project, written and oral presentation: points	min.- max. Seminar paper points 25 - 35	
	19.3.	Final exam: points	min.-max Oral exam points 15 - 25	
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)
			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)

21.	<b>Methods of monitoring the quality of the teaching process</b>	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Davies AM, Sundaram M, James SLJ	Imaging of bone tumors and tumor-like lesions	New York: Springer	2009
	22.2.	<b>Additional literature</b>				
		Number	Author	Title	Publisher	year
1.		Manaster BJ, Andrews C, Crim J, Grossman J, Miller T, Petersilge C, Roberts C, Rosenberg Z, Sanders R.K	Diagnostic and surgical imaging anatomy. Musculoskeletal	Solt Lake City: AMIRSYS	2006	

Number:50

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	<b>Subject</b>	<b>MAGNETIC RESONANCE IMAGING OF THE SPINE</b>			
2.	<b>Code</b>	<b>MEDI 50</b>			
3.	<b>Study program</b>	General Medicine			
4.	<b>Institution (unit, institute, chair, department)</b>	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Radiology			
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year studies			
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh (VII)
7.	<b>ECTS credits</b>	1			
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Violeta Vasilevska Nikodinovska, PhD, MD			
9.	<b>Language of the study</b>	English			

10.	<b>Preconditions for attending the classes and taking the subject's exam</b>	Passed exam of Radiology. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.		
11.	<b>Subject program goals (competences) and study results:</b>	Aims of the course program (competences): Student should obtain basic and advanced knowledge for radiological diagnosis of the spine, presentation of the diseases of the spine on magnetic resonance imaging and to become familiar to interventional procedures of the spine.		
12.	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<b>Contents of the course program:</b> <b>Theoretical course:</b> <ul style="list-style-type: none"> <li>• MR anatomy of the spine</li> <li>• Pathological conditions of the spine presented on MRI</li> <li>• Congenital anomalies.</li> <li>• Inflammation</li> <li>• Degenerative diseases</li> <li>• Tumors</li> <li>• Trauma</li> <li>• Interventional procedures of the spine</li> </ul> <b>Practical course:</b> <ul style="list-style-type: none"> <li>• Clinical application of MRI in diagnosis of the spine diseases</li> <li>• Clinical applications of spine basic protocols</li> <li>• Clinical applications of spine advanced protocol</li> <li>• Interventional procedures of the spine</li> </ul> <b>Seminar paper:</b> Case presentation with differential diagnosis discussion		
13	<b>Interconnection between subjects</b>	Related to all other subjects		
14.	<b>Description of the subject's study and working methods in details</b>	Interactive teaching (theory), practical exercises, seminar paper		
15.	<b>Total available time frame</b>	30 hours		
16.	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	Exercises 5 hours Seminars 5 hours
		16.3.	Practice: hours	
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	<b>Requirements for signature</b> <b>Conditional criteria:</b> 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.		

		Theoretical course 4-10 points Practical course 4-10 points				
<b>19</b>	<b>Methods of assessment</b>					
	19.1.	Tests: points		min.-max. 12 - 20		
	19.2.	Seminar paper/project, written and oral presentation: points		min.- max. Seminar paper points 25 - 35		
	19.3.	Final exam: points		min.-max. Oral exam points 15 - 25		
<b>20</b>	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
<b>21.</b>	<b>Methods of monitoring the quality of the teaching process</b>		Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process			
<b>22.</b>	<b>Literature</b>					
	<b>Mandatory literature</b>					
		Number	Author	Title	Publisher	Year
<b>22.1.</b>		1.	Ross JS, Brant, Zawadzki, Moore, Crim, Chen, Katzman	Diagnostic Imaging Spine	Solt Lake City: AMIRSYS	2010
	<b>Additional literature</b>					
		Number	Author	Title	Publisher	year
<b>22.2.</b>		1.	Manaster BJ, Andrews C, Crim J, Grossman J, Miller T, Petersilge C, Roberts C, Rosenberg Z, Sanders R.K	Diagnostic and surgical imaging anatomy. Musculoskeletal	Solt Lake City: AMIRSYS	2006

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>ENDOCRINE DYSREGULATION, BIOMARKERS IN CARDIAC FAILURE AND TECHNIQUES OF VISUALISATION</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 51</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department of Pathophysiology and Nuclear Medicine			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study			
<b>6.</b>	<b>Academic year/semester</b>	Year	Third (III)	Semester	Sixth (VI)
<b>7.</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Prof. Venjamin Majstorov, MD, PhD			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10.</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Exam of Pathophysiology 1, Signature of Pathophysiology 2			
<b>11.</b>	<b>Subject program goals (competences) and study results:</b>	To get introduced with the mechanisms of endocrine dysregulation and biomarkers in cardiac failure, possibilities for cardiac failure visualization and their application in practice			
<b>12.</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p><b>Theoretical course</b></p> <ul style="list-style-type: none"> <li>• Pathophysiology of endocrine disorders in cardiac failure and mechanisms of release of various biomarkers</li> <li>• Special review on pathophysiological mechanisms of symphatetic nervous system hyperreactivity in cardiac failure</li> <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> <p><b>Practical lessons</b></p> <ul style="list-style-type: none"> <li>• Discussion on disorders in cardiac failure, demonstration of some visualization techniques and their application</li> </ul> <p><b>Seminar</b></p> <ul style="list-style-type: none"> <li>• Disorders in cardiac failure-work on separate parts</li> </ul>			
<b>13.</b>	<b>Interconnection between subjects</b>				
<b>14.</b>	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures, writing and preparing presentation, independent study by using textbooks, computer assisted learning			
<b>15.</b>	<b>Total available time frame</b>	30 classes			
<b>16.</b>	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 classes	

		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10 classes		
		16.3.	Practice: hours			
17.	<b>Other forms of activities</b>	17.1.	Project tasks: hours			
		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15 classes		
18	<b>Requirements for signature</b>	<p>The student is required to actively follow all of the planned activities.</p> <p><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.</p>				
19	<b>Methods of assessment</b>					
	19.1.	Tests: points				
	19.2.	Seminar paper/project, written and oral presentation: points		min-max 40-60		
	19.3.	Final exam: points		min-max Written exam 25 - 35 Oral exam 15 - 25		
		Active participation: points		Theoretical course 10 - 20 Practical course 10 - 20		
20	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
21.	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous evaluation by the students for the teaching staff.				
22.	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	O'Malley JP, Ziessman HA, Thrall JH.	Nuclear Medicine and Molecular Imaging: The Requisites	Elsevier	2020
2.	Leonard S. Lilly	Pathophysiology of Heart Disease	Wolters Kluwer	2020		

		3.				
22.2.	Additional literature					
	Number	Author	Title	Publisher	year	
	1.	McPhee SJ, Ganong WF:	Pathophysiology of disease. An introduction to clinical medicine	Langee medical Books/McGraw-Hill, New York	2003	
	2.					
	3.					

Number:52

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>				
1.	<b>Subject</b>	<b>VIRAL ACUTE UPPER RESPIRATORY INFECTIONS</b>				
2.	<b>Code</b>	<b>MEDI 52</b>				
3.	<b>Study program</b>	General Medicine				
4.	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University, Medical Faculty, Department of Infectology				
5.	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study				
6.	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh(VII)	
7	<b>ECTS credits</b>	1				
8.	<b>Professor (when more professors, responsible professor is assigned)</b>	Assoc. Prof. d-r Marija Cvetanovska				
9.	<b>Language of the study</b>	English				
10	<b>Preconditions for attending the classes and taking the subject's exam</b>	Criteria meet for enrollment of the seventh semester				
11	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>Knowledge in the implementation of the diagnostic-therapeutic protocol for upper respiratory viral infections through the implementation of clinical, ecological and etiological principles, as well as the possibility of critical monitoring of scientific efforts from the field jeto na viral infekcii na respiratoryniot sistem.</li> </ul>				

12	<b>Subject content in details by chapters and units, with study results for every chapter</b>	<p>Theoretical teaching</p> <ul style="list-style-type: none"> <li>• Causes of upper respiratory infections</li> <li>• Epidemiological characteristics</li> <li>• Types of upper respiratory syndromes</li> <li>• Clinical characteristics of upper respiratory syndromes</li> <li>• Differential diagnosis of upper respiratory syndromes</li> <li>• Therapeutic approach in viral upper respiratory syndromes</li> <li>• Complications-types and their treatment</li> <li>• Cold syndrome</li> <li>• Febrile catarrh syndrome</li> <li>• Influenza syndrome</li> <li>• Diagnosis, therapy and prevention of Influenza</li> <li>• Influenza-historical facts</li> <li>• Prophylactic approach to upper respiratory infections</li> <li>• Seasonal influenza vaccine</li> </ul> <p>Practical teaching</p> <ul style="list-style-type: none"> <li>• Diagnostic protocol in a patient with upper respiratory syndrome</li> <li>• Virological follow-ups</li> <li>• Diagnostic tests for the detection of viral agents of upper respiratory infections</li> <li>• Therapy of upper respiratory viral infections</li> <li>• Criteria for monitoring, detection of complications and the need for their treatment</li> <li>• Criteria for hospitalization</li> </ul> <p>Seminars</p> <ul style="list-style-type: none"> <li>• Case processing and presentation</li> </ul>		
13	<b>Interconnection between subjects</b>			
14	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures and practical trainings, seminars		
15	<b>Total available time frame</b>	30 hours		
16	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	5 hours 5 hours
		16.3.	Practice: hours	
17	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	<p><b>Obligatory criteria:</b> 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.</p>		

		<p>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.</p> <p>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.</p>				
<b>19</b>	<b>Methods of assessment</b>					
	19.1.	Tests: points				
	19.2.	Seminar paper/project, written and oral presentation: points		Seminar work*	points	min-max 35-45
		Active participation		Tests (oral exam) *	points	min-max 15 -25
				Activity and participation **	points	10-20
				* presence in the theoretical course 51%-60% 1 point 61%-70% 1,5 points 71%-85% 2 points 86%- 100% 2,5 points		
	19.3.	Final exam: points				
<b>20</b>	<b>Grading criteria (points/grade)</b>		Up to 59 points	5 (five) (F)		
			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)		
<b>21</b>	<b>Methods of monitoring the quality of the teaching process</b>		Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.			
	<b>Literature</b>					
<b>22</b>	<b>Mandatory literature</b>					
	<b>22.1.</b>	Number	Author	Title	Publisher	Year

<b>22.2.</b>	1.	Jonathan Cohen, William J. Powderly Steven	Infectology Volume 1 and Volume 2	New York: Elsevier	2017	
	2.					
	3.	John E. Bennett, MD Raphael Dolin, MD Martin J. Blaser, MD	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases Ninth Edition	<a href="https://t.me/MBS_MedicalBooksStore">https://t.me/MBS_MedicalBooksStore</a>	2020	
	Additional literature					
		Numbe	Author	Title	Publisher	Year
	1.	Chow AW, Benninger MS, Brook I, Brozek JL, Goldstein EJ, Hicks LA, Pankey GA, Seleznick M, Volturo G, Wald ER, File TM Jr;	Infectious Diseases Society of America. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults.	Clin Infect Dis. 2012 Apr;54(8):e72-e112. doi: 10.1093/cid/cir1043. Epub 2012 Mar 20. PMID: 22438350.	2012	
	2.	Wong DM, Blumberg DA, Lowe LGAm	<b>. Guidelines for the use of antibiotics in acute upper respiratory tract infections.</b>	Fam Physician. 2006 Sep 15;74(6):956-66. PMID: 17002029.	2006	
	3.	D Longo, A Fauci, DL Kasper, S Hauser, J Jameson, J Loscalzo	Harrison's Principles of INTERNAL MEDICINE (2 Vol Set) 18 edition		2011	

Number:53

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
<b>1.</b>	<b>Subject</b>	<b>SEPSIS AND SEPTIC SHOCK</b>			
<b>2.</b>	<b>Code</b>	<b>MEDI 53</b>			
<b>3.</b>	<b>Study program</b>	General Medicine			
<b>4.</b>	<b>Institution (unit, institute, chair, department)</b>	Ss Cyril and Methodius University, Medical Faculty, Department of Infectology			
<b>5.</b>	<b>Degree of education (first, second, third cycle)</b>	Integrated 6-year study			
<b>6.</b>	<b>Academic year/semester</b>	Year	Fourth (IV)	Semester	Seventh(VII)
<b>7</b>	<b>ECTS credits</b>	1			
<b>8.</b>	<b>Professor (when more professors, responsible professor is assigned)</b>	Assoc. Prof. d-r Krsto Grozdanovski			
<b>9.</b>	<b>Language of the study</b>	English			
<b>10</b>	<b>Preconditions for attending the classes and taking the subject's exam</b>	Criteria meet for enrollment of the seventh semester			
<b>11</b>	<b>Subject program goals (competences) and study results:</b>	<ul style="list-style-type: none"> <li>Objectives of the subject program (competencies): Gaining knowledge about sepsis and septic shock by getting to know the importance of timely diagnosis and initial therapy. Familiarity with the diagnosis of local infection, antimicrobial therapy, fluid therapy, the use of vasopressors, corticosteroids, supportive therapy, and their impact on the course and outcome of patients with sepsis and septic shock. Monitoring of scientific papers related to sepsis, critical approach to published results and assessment of possibilities and ways to reduce mortality and morbidity from sepsis in our environment.</li> </ul>			
<b>12</b>	<b>Subject content in details by chapters and units, with study results for every chapter</b>	Theoretical teaching Evolution and current definitions of sepsis Epidemiology, clinical picture, diagnosis and prognosis Pathophysiology Microorganisms causing sepsis Interpretation of cultures and antimicrobial therapy Mechanical ventilation in patients with sepsis Prophylaxis of deep vein thrombosis, nutrition, ulcer prophylaxis and glycemic control in a patient with sepsis Methods of treating hypotension in a patient with septic shock			

		<p>New therapeutic approaches and therapy that is unnecessary and ineffective in sepsis  Practical teaching  Protocol for the diagnosis and therapy of sepsis and septic shock  Monitoring and assessment of hemodynamic parameters in the septic patient  Assessment of the need and method of fluid therapy  Interpretation of biological markers and acid-base status  Assessment of de-escalation of antimicrobial therapy  Seminars  Case processing and presentation</p>		
13	<b>Interconnection between subjects</b>			
14	<b>Description of the subject's study and working methods in details</b>	Interactive teaching during lectures and practical trainings, seminars		
15	<b>Total available time frame</b>	30 hours		
16	<b>Forms of teaching activities</b>	16.1.	Lessons – theoretical lessons, hours	5 hours
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	5 hours 5 hours
		16.3.	Practice: hours	
17	<b>Other forms of activities</b>	17.1.	Project tasks: hours	
		17.2.	Individual tasks: hours	
		17.3.	Studying at home: hours	15 hours
18	<b>Requirements for signature</b>	<p><b>Obligatory criteria:</b>  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.</p> <p>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.</p> <p>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.</p>		
19	<b>Methods of assessment</b>			
	19.1.	Tests: points		
	19.2.	Seminar paper/project, written and oral presentation: points	Seminar work* points	min-max 35-45
	Active participation	Tests (oral exam) * points Activity and participation ** points	min-max 15 -25 10-20	

			* presence in the theoretical course 51%-60% 1 point 61%-70% 1,5 points 71%-85% 2 points 86%- 100% 2,5 points			
	19.3.	Final exam: points				
20	<b>Grading criteria (points/grade)</b>	Up to 59 points	5 (five) (F)			
		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)			
21	<b>Methods of monitoring the quality of the teaching process</b>	Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.				
22	<b>Literature</b>					
	22.1.	<b>Mandatory literature</b>				
		Number	Author	Title	Publisher	Year
		1.	Jonathan Cohen, William J. Powderly Steven	Infectology Volume 1 and Volume 2	New York: Elsevier	2017
		2.	John E. Bennett, MD Raphael Dolin, MD Martin J. Blaser, MD	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases Ninth Edition	<a href="https://t.me/MBS_MedicalBooks">https://t.me/MBS_MedicalBooks</a> Store	2020
<b>Additional literature</b>						
22.2.	Numbe	Author	Title	Publisher	Year	

		1.	Alhazzani W, Evans L, Alshamsi F, Møller MH, Ostermann M, Prescott HC, et al Antonelli M, Rhodes A.	Surviving Sepsis Campaign Guidelines on the Management of Adults With Coronavirus Disease 2019 (COVID-19) in the ICU: First Update.	Crit Care Med. 2021 Mar 1;49(3):e219-e234. doi: 10.1097/CCM.00000000000004899. PMID: 33555780.	2021
		2.	Evans L, Rhodes A, Alhazzani W, Antonelli M, Coopersmith CM, et al Nunnally M, Oczkowski S, Osborn T, Papatheofoglou E, Perner A, Puskarich M, Roberts J, Schweickert W, Seckel M, Sevransky J, Sprung CL, Welte T, Zimmerman J, Levy M.	. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021	Crit Care Med. 2021 Nov 1;49(11):e1063-e1143. doi: 10.1097/CCM.00000000000005337. PMID: 34605781.	2021
		3.	D Longo, A Fauci, DL Kasper, S Hauser, J Jameson, J Loscalzo	Harrison's Principles of INTERNAL MEDICINE (2 Vol Set) 18 edition		2011

Number:54

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	Subject	<b>MINIMALLY INVASIVE SURGERY</b>			
2.	Code	<b>MEDI 54</b>			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Surgery			
5.	Degree of education (first, second, third cycle)	Integrated 6-year study			
6.	Academic year/semester	Year	Fifth (V), sixth (VI)	Semester	Tenth (X), Eleventh (XI), Twelfth (XII)
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Associate Prof. Svetozar Antovikj, PhD, MD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam Surgery			
11.	Subject program goals (competences) and study results:	To become familiar with the basic principles of minimally invasive surgery.			
12.	Subject content in details by chapters and units, with study results for every chapter	<p><b>Theoretical course:</b>            To introduced the students with:            Basic equipment for minimaly invasive surgery            Physiology of pneumoperitoneum            Basic surgical procedures in laparoscopy            Benefits and pittfols of minimal invasive surgey</p> <p>Practical course: working in small operation theatre one day surgery under supervizor</p>			
13.	Interconnection between subjects	Related to all subjects in the study program			
14.	Description of the subject's study and working methods in details	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study			
15.	Total available time frame	30 hours			
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5	

		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours	10.	
17.	Other forms of activities	17.1.	Project tasks: hours	5	
		17.2.	Individual tasks: hours	/	
		17.3.	Studying at home: hours	/	
18	Requirements for signature	In order to get a signature, the student needs to attend the theoretical and practical classes.			
19	Methods of assessment				
	19.1.	Tests: points			
	19.2.	Seminar paper/project, written and oral presentation: points		Students are assigned to do a seminar work	
	19.3.	Final exam: points			
20	Grading criteria (points/grade)	Up to 59 points		5 (five) (F)	
		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)	
21.	Methods of monitoring the quality of the teaching process	Evaluation two ways			
22.	Literature				
	22.1.	Mandatory literature			
		Number	Author	Title	Publisher
		1.	Hunter J, Spight D, Sandone, Fairman J	Atlas of Minimally Invasive Surgical Operations 1st Edition	Chicago: McGraw-Hill Professional
	22.2.	Additional literature			
		Number	Author	Title	Publisher
1.		Townsend CM, Beauchamp D.	Sabiston textbook of surgery	New York: Elsevier	
			Year	2013	
			year	2021	

<b>Attachment 3</b>		<b>Integrated cycle of studies – Subject program</b>			
1.	Subject	<b>EPILEPTIC SYNDROMES</b>			
2.	Code	<b>MEDI 55</b>			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Neurology			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies			
6.	Academic year/semester	Year	IV	Semester	VIII
7.	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Prof d-r Gordana Kiteva-Trenchevska			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Signature from Neurology To enter the exam, seminar work (writing text and presenting) is needed			
11.	Subject program goals (competences) and study results:	<ul style="list-style-type: none"> <li>• The students will achieve competences to classify epileptic seizures, epilepsies and epileptic syndromes</li> <li>• The students will achieve competences to diagnose different epileptic syndromes ( idiopathic, symptomatic, pharmacoresponsive and pharmakoresistant)</li> <li>• The students will achieve competences to diagnose specific comorbidities of different epileptic syndromes</li> <li>• The students will achieve competences to select appropriate treatment for different epileptic syndromes and their comorbidities</li> </ul>			
12.	Subject content in details by chapters and units, with study results for every chapter	<ul style="list-style-type: none"> <li>• ILAE classification of seizures, epilepsies and epileptic syndromes</li> <li>• Idiopathic epileptic syndromes</li> <li>• Symptomatic epileptic syndromes</li> <li>• Epileptic developmental encephalopathies</li> <li>• Epileptic syndromes in different age groups ( newborns, infants, toddlers, children and adolescents, adults)</li> <li>• EEG in diagnosis of epileptic syndromes</li> <li>• Neuroimaging in epileptic syndromes</li> <li>• Genetics in epileptic syndromes</li> <li>• Neuropsychology in epileptic syndromes</li> <li>• Cognitive functioning in epileptic syndromes</li> <li>• Pharmacological treatment of epileptic syndromes</li> <li>• Pharmacoresistance in epileptic syndromes</li> <li>• Non-pharmacological treatment of epileptic syndromes</li> <li>• Therapeutic drug monitoring of antiseizure drugs</li> </ul>			

13	Interconnection between subjects	Neurology, epileptology, electroencephalography, neuroimaging, neuropsychology, cognition, genetics, pharmacological and non-pharmacological treatment			
14.	Description of the subject's study and working methods in details	Theoretical course: Lectures, presentation, discussions, questions Practical course: small group work with different epileptic syndromes, different diagnostic methods, different therapeutic options; problem solving tasks in different epileptic syndromes Seminars: individual and group work project on special epileptic syndromes Presentation skills exercises			
15.	Total available time frame				
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
		16.3.	Practice: hours		
17.	Other forms of activities	17.1.	Project tasks: hours	5	
		17.2.	Individual tasks: hours	5	
		17.3.	Studying at home: hours	5	
18	Requirements for signature	Active participation in all planned activities ( theoretical course, practical course, seminars, presentation skills exercising) Final mark is formed by summarizing the points of all planned activities			
19	Methods of assessment				
	19.1.	Tests: points			15-25
	19.2.	Seminar paper/project, written and oral presentation: points			25-35
	19.3.	Final exam: points			20-40
20	Grading criteria (points/grade)		Up to 59 points	5 (five) (F)	
			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)	
21.	Methods of monitoring the quality of the teaching process	Anonymous student's evaluation			
22.	Literature				
	22.1.	Mandatory literature			
		Number	Author	Title	Publisher

		1.	Panayiotopoulos C.	A clinical guide to epileptic syndromes and their treatment	London: John Libbey & Co. Ltd, Springer Healthcare Ltd	2002
	22.2.	Additional literature				
		Number	Author	Title	Publisher	year
		1.	Arielle Crespel, Philippe Gelisse	Atlas of EEG	John Libbey	2005
		2.	<a href="http://www.epileptic.org">www.epileptic.org</a> syndromes			