

1.	Subject	PHYSIOLOGY			
2.	Code	MLD – 117			
3.	Study program:	Three-year professional studies of medical laboratory diagnostics			
4.	Conducted by	UKIM – Medical faculty Department of physiology			
5.	Degree of education (first or second cycle)	First cycle			
6.	Academic year/semester	II/IV	7.	Credits	4
8.	Professor	Prof. Dr. Sanja Manchevska;			
9.	Prerequisite	No			
10.	Goals	<p>To enable the student to demonstrate understanding of the functioning of the human body and to be able to:</p> <ul style="list-style-type: none"> • Define and describe the most important physiological processes inside every organ system, and explain the mechanisms with which every system performs its functions, and to connect the anatomical structure with the histological structure of every organ system • Understand and explain the connections between different organ systems <p>Perform certain practical procedures</p>			
11.	Content summary:	<p>Theoretical lessons:</p> <ul style="list-style-type: none"> • Functional organization of the human body and homeostasis • Physiology of the blood • Physiology of muscles • Physiology of the cardiovascular system • Physiology of the respiratory system • Physiology of the gastrointestinal system • Physiology of the liver • Physiology of the bodily fluids and the urinary system • Physiology of the nervous system • Physiology of the endocrine system <p>Practical lessons:</p> <ul style="list-style-type: none"> • Blood and blood elements (erythrocyte sedimentation, automatic count of blood elements, blood test, hemostasis, determining blood type) • Muscles (foundations of electromyography) • Cardiovascular system (physiology of a frog heart; physiology of a human heart, foundations of electrocardiography) • Respiration (lung breathing, static lung volume and capacity, spirometry) • Nervous system (reflexes, foundations of neurophysiological measuring – EEG) 			
12.	Teaching methods:	interactive theoretical lessons, practical lessons			
13.	Total classes:	140			
14.	Organization	60 theoretical lessons, practical lessons, seminars 80 lessons learning at home			
15.	Types of teaching activities	15.1	Lessons: theoretical classes	20	
		15.2	Practical lessons,	30	

			seminars, team work	10
16.	Other types of activities		16.1	Projects
			16.2	Self-supporting practice
			16.3	Learning at home
17.	Knowledge assessment		Points	
	17.1	Tests	Mid-term exams points 18 – 30 min.-max. Mid-term exam, 1 written test: Homeostasis, physiology of the blood, muscles, cardiovascular, respiratory and gastrointestinal system	
	17.2	Final exam	Written test points 24 – 40 min.-max. Physiology of the liver, thermoregulation, physiology of the urinary, nervous and endocrine system	
	17.3	Active participation	Min. – Max	
			Theoretical lessons points	6 - 10
			Practical lessons points	12 - 20
18.	Grading criterion (points/grades)	Up to 59	5 (five) F	
		60-68	6 (six) E	
		69-76	7 (seven) D	
		77-84	8 (eight) C	
		85-92	9 (nine) B	
		93-100	10 (ten) A	
19.	Requirements for obtaining a signature and attending the final examination	<p>To obtain a signature the student must attend the theoretical and practical lessons and gain minimum points.</p> <p>To attend the final exam, the student must pass the mid-term exams or gain minimum 30% of the total points in the mid-term exams. During the exam session, the student first attends the mid-term exams that were not passed, and then attends the final exam.</p> <p>The final grade for the subject is formed according to the grading criterion, and is based on the sum of the points of all the activities, mid-term exams and final exam.</p>		
20.	Language	Macedonian		
21.	Method of evaluating the quality of the lessons	Students' anonymous evaluation of the subjects, the professors and collaborators who hold the lessons.		
22.	Literature:			
	22.1	Mandatory literature		
		1.	Gaiton A.K, Hole Dz. E, Medical Physiology textbook, Akademski pecat, 2012	
		2.	Nikolij S. and collaborators, Physiology for the students of the three-year professional studies, Medical Faculty Skopje, 2015	
		3.	Dejanova B., Petrovska S., Todorovska L., Physiology of Different Organ Systems, Medical Faculty Skopje, 2012	
		4.	Antevska V. and collaborators, Physiology for the	

			students of the three-year professional studies practicum, Medical Faculty, Skopje, 2014
	22.2	Additional literature	
		1.	Sh. Zibernagl, A. Despopulos, Physiology Atlas in Color, Tabernakul, 2010