1.	Subject	**PHYSIOLOGY 1**		
2.	Code	OM 213		
3.	Study Program	General Medicine		
4.	Institution (Unit, Institute, Chair, Department)	Ss Cyril and Methodius University, Medical Faculty, Department of Anatomy		
5.	Degree of education (first or second cycle)	Integrated 6-year study		
6.	Study year/semester	Second (II) / III	7.Number of credits	11
8.	**Responsible teacher**	Prof. Sanja Mancevska, PhD, MD		
9.	Preconditions	Gained credits (passed exam) from Morphology and physiology of cell, Histology and Embryology 1, Anatomy 1 and 2		
10.	Teaching goals: • To gain insight in functional organization of the human body and to be able to:			

	• Define homeostasis and to explain the mechanisms of maintenance of the constancy of the internal environment. • Define the functions of every system in the body, to explain the mechanisms through which they are achieved and to connect them with morphological structure • Understand and interpret the relations between different body systems • Predict and explain integrated responses of the systems during physiological effort • Perform certain practical procedures

11.	Brief content: **Theoretical course:** •Functional organization of the human body, mechanisms for maintaining consistency of the internal environment; feedback and regulation of functions of the body. •Physiology of skeletal and smooth muscles •Physiology of heart, cardiac cycle, heart tones, heart rate; physiology of circulation, arterial and venous system; microcirculation and lymphatic system, control mechanisms of regulation of circulation, regulation of blood pressure. •Physiology of body fluids and their regulation. •Physiology of the urinary system •Physiology of blood, blood elements, blood hemostasis and coagulation. • Physiology of the respiratory system • Physiology of the gastrointestinal system • Physiology of metabolism, metabolic processes of carbohydrates, fats and proteins, physiological regulation of energy balance, basal metabolism, diet. •Physiological functions of the liver. •Skin physiology, thermoregulation, body temperature. •Activity of the organism under specific conditions, sports physiology, sports impact on bodies and systems, functioning of the organism in extreme environmental conditions: high altitude and great depths. **Practical lessons:** •Examination of the activity of the muscles, testing the activity of the heart muscle in experimental animals and the influence of various factors on the heart; bioelectrical currents in humans and electrocardiography. •Examination of blood and blood components (red blood cells, white cells and platelets), determination of blood groups and test methods for hemostasis. •Examination of respiratory function (functional testing). •Examination of the function of the gastrointestinal system (determination of acidity of gastric juice and the action of digestive enzymes).	
12.	**Methods of studying:** Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises on experimetal animal models and virtual models with computer-assisted learning.	
13.	Total available time:	330 classes

14.	Organization of the course		150 classes - theoretical course, practical course, seminars 180 classes - home individual learning	
15.	Forms of teaching activities	15.1.	Theoretical course	75 classes
		15.2.	Practical course, Seminars	75 classes
16.	Other forms of activities	16.1.	Practice	
		16.2.	Individual tasks	
		16.3.	Individual (home) learning	180 classes
17.	Method of assessment			
	17.1 Tests		min – max **Continual assessment - 3 (written)** • Physiology of blood and respiratory system 9-15 points • Physiology of muscle, heart circulatory system 9-15 and • Physiology of the urinary system, body fluids and gastrointestinal system. 9-15 **Final exam: final test (written) + practical examination +oral examination** **1.** Final test (written): liver metabolism, thermoregulation, physiology of sport and physiology in special conditions 9 - 15 points **2.** Practical and oral examination: certain practical procedures and integrative knowledge of the whole material learnt in Physiology 1. 14-23 points	

			The grade in the final exam is given according to the grading table, and on the basis of the sum of points obtained in all of the activities.	
	17.2	Seminar paper/project (oral/written presentation)	1 - 3	min – max
	17.3	Active participation	Theoretical course Practical course Completed textbook	min – max 1-3 8 - 11 mandatory
18.	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

19.	Requirement for signature and taking the final exam	The student is required to actively follow all of the planned activities. **Conditional criteria for assessment of knowledge:** In order to get a signature, the student should obtain minimum points in both theoretical and practical courses, and to present a seminar paper; In order to take the final exam, the student should obtain the minimum points in the three continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.				
20.	Language of instruction	Macedonian				
21.	Method of monitoring the quality of teaching process	Attendance of students to classes and interactive participation in theoretical and practical lessons and anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities				
22.	Textbooks					
	22.1.	Mandatory				
		1.	Guyton AC, Hall JE.	Textbook of Medical Physiology 12 th edition.	Elsevier, London,	2011
		2.	Dejanova B, Petrovska S, Todorovska L.	Physiology of certain organ systems.	Medical Faculty, Skopje	2012
		3.	Costanzo LS.	Physiology	Elsevier, London,	2006
		4.	Efremovska Lj and all.	Practicum in Physiology 1.	Medical Faculty, Skopje	2012
	22.2.	Additional				
		1	Widmaier E, Raff H, Stran ; K.	Vander's Human Physiology: The Mechanisms of Body Function.	McGraw - Hill Education	2013
