1.	Subject	**PHYSIOLOGY 2**		
2.	Code	OM 222		
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	II/III	7.Number of credits	6
8.	**Responsible teacher**	Prof. Sanja Mancevska, PhD, MD		
9.	Preconditions	Signature from Physiology 1		
10.	Teaching goals: • To gain insight in the regulatory systems of the human body and to be able to: • Define the functions of the nerve system, sensory senses and endocrine system, to explain the mechanisms through which they are achieved and to connect them with morphological structure. • Understand and interpret the interrelations between the nerve and endocrine system and their relations with other organ systems. • To explain integrated responses of the regulatory systems during the maintenance of the normal function of the human body • Perform certain practical procedures			

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

	• Examination of the functions of the endocrine glands in experimental animals.			
12.	**Methods of studying:** Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises on experimetal animal models and virtual models with computer-assisted learning.			
13.	Total available time:		180 classes	
14.	Organization of the course		90 classes - theoretical course, practical course, seminars 90 classes - home individual learning	
15.	Forms of teaching activities	15.1.	Theoretical course	45 classes
		15.2.	Practical course, Seminars	45 classes
16.	Other forms of activities	16.1.	Practice	
		16.2.	Individual tasks	

			16.3.	Individual (home) learning	90 classes
17.	Method of assessment				
	17.1	Tests	min – max **Continual assessment - 2 (written)** • Physiology of peripheral and central nervous system. 12-20 points • Physiology of senses, neuronal control of mood, emotion and state of awareness; and intellectual functions. 12-20 points **Final exam: final test (written) + practical examination +oral examination** **1.** Final test (written): physiology of endocrine 12 - 20 points **2.** Practical and oral examination: certain practical procedures and integrative knowledge of the whole material learnt in Physiology 2. 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)	min – max 1 - 3		
	17.3	Active participation	min – max Theoretical course 1-3 Practical course 8 - 11 Completed textbook 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.	Maleska V, and all.	Practicum in Physiology 2.	Medical Faculty, Skopje	2012
3.	Costanzo LS.	Physiology	Elsevier, London,	2006
4.	Despopoulos A, Silbernagl S.	Color atlas of Physiology.	New York	2003

	22.2.	Additional				
		1	Widmaier E, Raff H, Strang K.	Vander's Human Physiology: The Mechanisms of Body Function.	McGraw - Hill Education	2013