Faculty of Medicine / HIGHER MEDICAL SCHOOL / PHYSIOLOGY AND BIOCHEMISTRY

Course:	PHYSIOLOGY AND BIOCHEMISTRY			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
644	Mandatory	2	7	2+3+0
Programs	HIGHER MEDICAL SCHOOL			
Prerequisites	None.			
Aims	Acquiring the basic theoretical knowledge and basic practical experience in the area of physiology and biochemistry.			
Learning outcomes	After passing this exam, students will be able to : 1.describe the main physiological processes at the cellular level, the level of organic systems and at the level organism as a whole. 2. define normal functions of all organic systems of human organism: cardiovascular, hematological, locomotor, respiratory, gastrointestinal, urogenital, immune, endocrine and nervous system. 3. know how organ systems interact in a healthy human organism. 4 .interpret general patterns how organism reacts to changes in the internal and in the external environment. 5. interpret results of the basic functional tests and identify deviation from normal values. 6. understands basic biochemical processes in human organism, with the ultimate goal of interpreting the further, more complex contents. 7. explain basic principles of structure of proteins, carbohydrates, lipids and nucleic acids. 8. recognize the function of the most important proteins, carbohydrates and lipids in human organism, and explain basic principles of digestion and metabolism.			
Lecturer / Teaching assistant				
Methodology	Lectures, practical classes, tests, consultations and final exam.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	PHYSIOLOGY. Introduction. Basics of physiological functions from the level of a cell to the level of the organism as a whole.			
I week exercises	Practical classes to follow the theoretical lecture.			
II week lectures	Physiology of nervous, sensory and respiratory system.			
II week exercises	Practical classes to follow the theoretical lecture.			
III week lectures	Physiology of the cardiovascular system. Physiology of the gastrointestinal system.			
III week exercises	Practical classes to follow the theoretical lecture.			
IV week lectures	Physiology of endocrine system, urinary and hematologic system.			
IV week exercises	Practical classes to follow the theoretical lecture.			
V week lectures	Regulatory processes in extracellular and intracellular fluids, hematopoiesis.			
V week exercises	Practical classes to follow the theoretical lecture.			
VI week lectures	Development of human organism. Physiology test.			
VI week exercises	Practical classes to follow the theoretical lecture.			
VII week lectures	Introduction to biochemistry, biomolecules.			
VII week exercises	Practical classes to follow the theoretical lecture.			
VIII week lectures	Biological material and laboratory techniques.			
VIII week exercises	Practical classes to follow the theoretical lecture.			
IX week lectures	Basic biochemical mechanisms in the human organism.			
IX week exercises	Practical classes to follow the theoretical lecture.			
X week lectures	Metabolism of carbohydrates.			
X week exercises	Practical classes to follow the theoretical lecture.			
XI week lectures	Metabolism of lipids.			
XI week exercises	Practical classes to follow the theoretical lecture.			
XII week lectures	Metabolism of proteins.			

XII week exercises	Practical classes to follow the theoretical lecture.
XIII week lectures	Metabolism of vitamins and minerals.
XIII week exercises	Practical classes to follow the theoretical lecture.
XIV week lectures	Biochemistry test.
XIV week exercises	Review.
XV week lectures	Final exam.
XV week exercises	Final exam.
Student workload	7 credits X 40-30 = 9.3 hours Structure: 2 hours of theoretical lectures 3 hours of practical classes 4.3 hours of independent work preparing for practical classes, tests incuding consultations

Per week	**Per semester**
7 credits x 40/30=9 hours and 20 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 3 excercises **4 hour(s) i 20 minuts** of independent work, including consultations	Classes and final exam: **9 hour(s) i 20 minuts x 16 =149 hour(s) i 20 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **9 hour(s) i 20 minuts x 2 =18 hour(s) i 40 minuts** Total workload for the subject: **7 x 30=210 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **42 hour(s) i 0 minuts** Workload structure: **149 hour(s) i 20 minuts (cources), 18 hour(s) i 40 minuts (preparation), 42 hour(s) i 0 minuts (additional work)**
Student obligations	
Consultations	As arranged with the instructor.
Literature	1. Medicinska fiziologija. Guyton & Hall. Publisher : Savremena administracija, Beograd, 12th edition 2.Spasić S., Jelić-Ivanović S., Spasojević-Kalimanovska V.: Opšta biohemija, Beograd 2003. 3. Spasić S., Jelić-Ivanović S., Spasojević-Kalimanovska V.
Examination methods	PHYSIOLOGY: 5 points for the attendance of theoretical lectures and practical classes, 5 points for the practical exam, 15 points for the test. Cumulative score of minimum 50 points is required for passing grade. BIOCHEMISTRY: 5 points for the atten
Special remarks	None.
Comment	None.

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points