Faculty for Sport and Physical Education / COLLEGE FOR SPORTS TRAINING / Fundamentals of Physiology and Phys. of Sports I

Course:	Fundamentals of Physiology and Phys. of Sports I			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
8170	Mandatory	3	5	2+1+0
Programs	COLLEGE FOR SPORTS TRAINING			
Prerequisites	There are no prerequisites required for signing up for this course			
Aims	The aim of the course is to acquaint students with the physiology of human body			
Learning outcomes	: Upon the completion of this course, the student will show the ability to: 1. Master the basic principles of cell physiology and its functions in human beings; 2. Explain the structure and function of applied physiology of sport; 3. Use physiological aspect of locomotor system in creating the teaching and training process; 4. Analyse the adaptation of cardiorespiratory and urogenital system to the physical exertion and sports training; 5. Value morphological and functional characteristics of oxygen consumption			
Lecturer / Teaching assistant	Prof. dr Miroslav Kezunović ; dr sci med Zoran Terzić			
Methodology	Lectures, exercises, exams, consultations			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction to human physiology.			
I week exercises	Introduction to human physiology.			
II week lectures	The cell and its functions. Homeostasis, body fluids.			
II week exercises	The cell and its functions. Homeostasis, body fluids.			
III week lectures	Structure and function of a cell membrane. Membrane and action potential.			
III week exercises	Structure and function of a cell membrane. Membrane and action potential.			
IV week lectures	Physiology of the locomotor system. Muscular tissue. Muscle contraction and hypertrophy.			
IV week exercises				
V week lectures	The impact of sports training on muscles and muscular functioning. Fatigue.			
V week exercises	The impact of sports training on muscles and muscular functioning. Fatigue.			
VI week lectures	Physiological aspect of the bone tissue: types, composition and role.			
VI week exercises	Physiological aspect of the bone tissue: types, composition and role.			
VII week lectures	The impact of sport on the bone tissue.			
VII week exercises	The impact of sport on the bone tissue.			
VIII week lectures	The composition and role of blood. Blood groups, immunity. Coagulation.			
VIII week exercises	The composition and role of blood. Blood groups, immunity. Coagulation.			
IX week lectures	Circulation.			
IX week exercises				
X week lectures	Mid-term exam			
X week exercises	Mid-term exam			
XI week lectures	Physiological structure of the cardiac muscle. Regulation of the heart’s function.			
XI week exercises	Physiological structure of the cardiac muscle. Regulation of the heart’s function.			
XII week lectures	Principles of hemodynamics.			
XII week exercises	Principles of hemodynamics			
XIII week lectures	Physiological causes of shock. Adaptation of the cardiovascular system to the exertion and exercising.			
XIII week exercises	Physiological causes of shock. Adaptation of the cardiovascular system to the exertion and exercising.			
XIV week lectures	Respiratory system. Structure and function. Oxygen debt. Respiratory membrane.			

XIV week exercises	Respiratory system. Structure and function. Oxygen debt. Respiratory membrane.
XV week lectures	The mechanics of breathing. Lung volumes and capacities. Breathing during muscular activity.
XV week exercises	The mechanics of breathing. Lung volumes and capacities. Breathing during muscular activity.Regulating the acid-base balance. The reproductive system. Final exam
Student workload	Lectures and final exam: 5.20 hours x 16 = 85 hours Necessary preparations before the start of the semester 2 x (5 hours 20 min.) = 10 hours 40 min. Total hours for the course: 4x30 = 120 hours Additional work for the course from 0 to 24 hours and 20 min. Structure of the load: 85 hours (teaching) + 10 hours 40 min. (preparation) + 24 hours 20 min. (additional work)

Per week	**Per semester**
5 credits x 40/30=6 hours and 40 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises **3 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts** Total workload for the subject: **5 x 30=150 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) **30 hour(s) i 0 minuts** Workload structure: **106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)**
Student obligations	5 credits x 40/30 = 5 hours 20 min. Structure of the load: 2 hours of lectures 1 hour of exercises 2 hours 20 min. of independent work including consultations
Consultations	: According to the previously set terms.
Literature	Gayton; Medicinska fiziologija ; M.Kezunović i sar. Osnovi fiziologije i fiziologija sporta; Drecun M. i sar. Praktikum iz fiziologije
Examination methods	- Attendance 6 points - Participation 4 points - 2 exams 20 points each - Final exam: 50 points The passing grade is achieved if the student cumulatively earns 51 points and regularly attends the classes.
Special remarks	The methodological units for practical classes correspond to the methodological units for theoretical classes.
Comment	

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