

Study Programme: BSc of Biology		
Course Unit Title: ANIMAL PHYSIOLOGY		
Course Unit Code: OB018		
Name of Lecturer(s): Prof. Dr Tatjana Kostic		
Type and Level of Studies: Bachelor degree		
Course Status (compulsory/elective): Compulsory		
Semester (winter/summer): Summer		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 6		
Prerequisites: -		
Course Aims: Objective of this course is to present to the students fundamental principles in physiology, mechanisms of maintenance of homeostasis and functional organisation of organic systems in mammal organism as an illustration.		
Learning Outcomes: At the end of this course students will be able to understand and describe fundamental principles in survival of organism in changeable environmental conditions, and how coordinated functioning of organic systems contributes to maintenance of homeostasis.		
Syllabus: <i>Theory</i> Physiology of membrane transport. Resting membrane potential and genesis of action potential. Functional organization of skeletal and cardiac muscle. Basic mechanisms of synaptic transmission. Basic principles in perception and receptors. Reflex arc, reflexes and control of movement. Function of the autonomic nervous system. Central regulation of visceral function. Physiology of circulating body fluids, main functions of the cellular elements of blood, hemostasis, basic principles in functional organisation of vascular system. Physiology of respiratory, gastrointestinal and excretory system. Basics in functional organization of endocrine system. <i>Practice</i> Membrane transports. Computer simulations of functions of nerve and muscle cell. Experiments on nerve-muscle frog preparation and frog heart preparation in situ. Characteristics of serum/plasma. Determination of number of cellular elements in peripheral blood. Blood differential test. Physiology of respiratory and circulatory system. Physiological aspect of food digestion. Qualitative and quantitative analysis of urea concentration in serum. Computer simulations of filtration and osmoregulation. Determination of phases of estrous cycle in female rats.		
Required Reading: Ganong WF (2005): Review of Medical Physiology. Lange/WCB McGraw-Hill Companies.		
Additional Literature: Germann WJ & Stanfield CL (2005): Principles of Human Physiology. Pearson Education & Benjamin Cummings. Kovacevic R, Kostic T, Andric S, Zoric S. (2005): General Animal Physiology (script). WUS Austria. Andric S, Kostic T, Andric N, Zoric S. (2005): Comparative Animal Physiology (script). WUS Austria.		
Weekly Contact Hours:	Lectures: 3	Practical work: 4
Teaching Methods: Theoretical part - Lectures Practical part – Combination of laboratory work and computer simulations		

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation		written exam	50
Practical work	30	oral exam	20
Preliminary exam(s)		
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			