

<b>Study Programme:</b> Doctoral academic studies of Veterinary medicine			
<b>Course Unit Title:</b> PRINCIPLES OF PHYSIOLOGICAL REGULATION			
<b>Course Unit Code:</b> 3DVM2I21			
<b>Name of Lecturer(s):</b> Dr Zdenko Kanački, associate professor			
<b>Type and Level of Studies:</b> Doctoral academic studies			
<b>Course Status (compulsory/elective):</b> Elective			
<b>Semester (winter/summer):</b> Summer			
<b>Language of instruction:</b> English			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face-to-face			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites:</b> Physiology as a separate subject in previous levels of study.			
<b>Course Aims:</b> Expanding and consolidating previously acquired knowledge about the regulation of physiological processes on molecular and cellular level to the level of integration of individual organs and organ systems in the body as a single functional entity. Understanding the regulation of physiological processes involved in various physiological and pathological conditions and processes.			
<b>Learning Outcomes:</b> Students will have the necessary foundation for further learning in the field of applied physiology, necessary for scientific research and practice as well as for understanding the clinical courses.			
<b>Syllabus:</b> <i>Theory:</i> Functional organization of multicellular organisms and cell physiology. Homeostasis and parameters of the internal environment. Feedback mechanisms in biological systems. Molecular basis of physiological regulation. Action potentials. General principles and physiological factors of control (neural and humoral). Reflex, reflex arc, and sensory receptor system. The functional organization of the nervous system. The real and tissue hormones. Synthesis, transport, and mechanism of action of hormones. Hypothalamus as integrator of neurohumoral correlation. Physiology of endocrine glands and diffuse neuroendocrine system. Regulation of metabolic parameters. <i>Practice:</i> Practical and individual study research of regulation mechanisms of certain physiological processes in selected species of animals			
<b>Required Reading:</b> 1. Sherwood, Lauralee: Human physiology – from cells to systems. Thomson LARC, USA, 2004. 2. Sjaastad, Hove, Sand: Physiology of domestic animals. Scandinavian veterinary Press. 2003. 3. Sherwood, Klandorf, Yancey: Animal physiology – from genes to organisms. Thomson LARC, USA, 2005. 4. Stojić V. Veterinarska fiziologija, Naučna knjiga, Beograd, 2007. Guyton i Hall: Medicinska fiziologija. Medicinska naklada, Zagreb, 2006. 5. Aida Hodžić, Muhidin Hamamdžić: Endokrinologija domaćih životinja, Veterinarski fakultet Univerziteta u Sarajevu, Sarajevo, 2012.			
<b>Weekly Contact Hours:</b> 6	<b>Lectures:</b> 3	<b>Practical work:</b> 3	
<b>Teaching Methods:</b> The method of oral presentation and discussion. Method of presentations, demonstrations, simulations and illustrations using a computer. Methods of practical laboratory work.			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Activities during lectures	10	Written exam	10
Activities during	10	Oral exam	20

research work			
Laboratory work	20		
Seminars	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			