

<b>Study programme(s): Bachelor of Science in Ecology</b>			
<b>Level: Bachelor degree</b>			
<b>Course title: BASIC ANIMAL PHYSIOLOGY</b>			
<b>Lecturers: Prof. Dr Sonja Kaisarevic</b>			
<b>Status: Required</b>			
<b>ECTS: 6</b>			
<b>Requirements: -</b>			
<b>Learning objectives</b> Objective of this course is to enable students to understand fundamental principles of functioning of excitable tissues in animals, mechanisms of maintenance of homeostasis and functional organization of organ systems of animals at different levels of functional organization.			
<b>Learning outcomes</b> At the end of this course, students will be able to understand and describe basic physiological principles in functioning of animals as integrated systems on each level of functional organization, and their role in maintenance of homeostasis.			
<b>Syllabus</b> <i>Theoretical instruction</i> Physiology of membrane transport. Neuron. Membrane resting potential and action potential. Basic mechanisms in synaptic transmission. Physiology of excitable tissues: skeletal, heart and smooth muscle. Basic principles in perception and receptors. Reflex arc and reflexes. Central and peripheral nervous system. Comparative overview and function of body fluids and their cellular elements, circulatory, respiratory, gastrointestinal and excretory system. Basic principles in physiology of endocrine system.  <i>Practical instruction</i> Membrane transports. Action potential. Nerve-muscle frog preparation. Neuromuscular junction. Skeletal muscle – isotonic and isometric contraction, muscle response to variations in stimulus intensity, summation of contractions, muscle fatigue. Frog heart preparation <i>in situ</i> . Mechanism of spontaneous activity of nodal tissue. Heart muscle – refractory period and extrasystole. Determination of number of cellular elements in peripheral blood of animals. Blood differential test. Physiology of respiratory, circulatory and digestive system. Physiology of endocrine system.			
<b>Recommended Literature:</b> Ganong WF (2005): <i>Review of Medical Physiology</i> . Lange/WCB McGraw-Hill Companies. Germann WJ & Stanfield CL (2005): <i>Principles of Human Physiology</i> . Pearson Education & Benjamin Cummings. Kovacevic R, Kostic T, Andric S, Zoric S. (2005): <i>General Animal Physiology (script)</i> . WUS Austria. Andric S, Kostic T, Andric N, Zoric S. (2005): <i>Comparative Animal Physiology (script)</i> . WUS Austria. Djordjevic J. (2013) <i>Animal Physiology</i> . University of Belgrade, Faculty of Biology. Kibble J.D., Halsey C.R. (2013) <i>Medical Physiology</i> . Data Status. Belgrade. Kovacevic R., Kostic T., Andric S. (1997) <i>Practicum in General Animal Physiology</i> . Faculty of Sciences, University of Novi Sad. Presentations, working material and experimental protocols prepared by the teacher.			
<b>Weekly teaching load</b>			Other:
Lectures: 3	Exercises:	Other forms of teaching: 3	
Student research:			
<b>Teaching methodology</b> Theoretical part - Lectures Practical part – Combination of laboratory work and computer simulations			
<b>Grading method (total number of points 100)</b>			
<b>Pre-exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Practical problems	up to 30	Oral exam	up to 50
Tests	up to 20		