

Study Programme: ORGANIC AGRICULTURE			
Course Unit Title: PLANT AND ANIMAL PHYSIOLOGY			
Course Unit Code: 19.ORG004			
Name of Lecturer(s): Full professor Aleksandar Božić, Associate professor Marina Putnik-Delić			
Type and Level of Studies: UNDERGRADUATE ACADEMIC STUDIES			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer):winter			
Language of instruction: Serbian/English			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated:6			
Prerequisites:-			
Course Aims: Acquiring knowledge about the physiological processes in crop plants and domestic animals. The envisaged forms of teaching provide a clear insight into the physiological processes and enable students to understand and correctly interpret the different physiological parameters and environmental factors that affect them.			
Learning Outcomes: Students achieve an average 75% of success by completing the pre-examination activities and exams, which enables them to understand easier teaching subjects, specific for all branches of organic agriculture.			
Syllabus: <i>Theory:</i> Plant physiology: Introduction. Physiology of yield (CO ₂ assimilation, water regime, temperature, light, etc.), Crop nutrition, uptake and transport of nutrients, impact of crop nutrition on yield and quality. Essential macro- and micronutrients (N, P, K, Ca, Mg, Fe,), regulation of growth and development. General animal anatomy. Basics of chemistry and physics in physiology. Anatomy and Physiology of cells and tissues. Nervous system. Senses. Endocrine system. Skeletal tissue and metabolism of minerals. Muscles. Blood and its functions. Immunology. Cardiovascular system. Respiratory system. The kidneys and urinary tract. Regulation of acid-base balance. Digestive tract. Metabolism. Vitamins. Skin. Regulation of body temperature. Reproduction. Lactation. Bioenergetics and growth. <i>Practice:</i> Forms of plasmolysis and determination of the osmotic potential of the cell. Sampling of plant material. Determination of water and minerals (K, Ca, P). Determination of the intensity of transpiration, leaf area, root volume and surface. Determination of concentration of photosynthetic pigments and their separation by chromatography. Determination of the number of erythrocytes, leukocytes and leukocytes formulas, hemoglobin concentration. Determination of blood groups. Measurement of blood pressure. Breathing - lung volumes, spirometry. Physiology of non-ruminants and ruminant digestion. Mammary gland. Metabolism. Vitamins. The endocrine system. Kidneys. The nerves and muscles. Specific features of the physiology of birds and fish.			
Required Reading: Plant Physiology and Development ,2014, Taiz L, Zeiger E, Møller IM, Murphy A; Physiology of domestic animals, 2003, Sjaastad, Q.V., Hove, K., Sand, O.			
Weekly Contact Hours:7	Lectures:4	Practical work:3	
Teaching Methods: Lectures and Practical classes, Consultations if needed.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	2	written exam	50
Practical work	8	oral exam	
Preliminary exam(s)	40	
Seminar(s)			