

Study Programme: Veterinary medicine			
Course Unit Title: Biochemistry			
Course Unit Code: 3IVM2006			
Name of Lecturer(s): Associate Professor Dejan Prvulović PhD, Assistant Professor Jovana Šučur PhD			
Type and Level of Studies: Integrated Academic 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: 7			
Prerequisites: None			
Course Aims: To gain knowledge on molecular aspects of biochemical processes and interactions in animal. Study on biomolecules in animal tissues and their metabolism.			
Learning Outcomes: The contribution of new knowledge in the field of animal biochemistry.			
Syllabus: <i>Theory</i> Chemical composition of animal organs and tissues. Primary biomolecules – properties, structures and function (amino acids, peptides and proteins, enzymes, coenzymes, vitamins, hormones, carbohydrates, lipids and nucleic acids). Metabolism of primary biomolecules and bioenergetics (metabolism of amino acids and proteins, metabolism of carbohydrates, lipids and nucleic acids). Biological membranes and transport of metabolites. Respiratory electron-transport chain and oxidative phosphorylation. Metabolism of water and electrolytes. <i>Practice</i> Proteins (qualitative reactions, denaturation and coagulation of proteins, determination of isoelectrical point of amino acids and proteins); Enzymes (effect of temperature, pH, substrate and enzyme concentration on enzyme activity, kinetics of enzyme reactions, antioxidant enzymes activity); Carbohydrates (qualitative reactions); Lipids (isolation of lipids from yolk and separation of compounds using thin-layer chromatography-TLC, determination of saponification and iodine number, qualitative reactions of lecithin, isolation of cholesterol from brain tissue and qualitative reactions); Hormones (quantitative determination); Vitamins and provitamins (determination of vitamin D and carotenoids in biological samples); Metabolism (glycolysis and alcoholic fermentation).			
Required Reading:			
Weekly Contact Hours: 5	Lectures: 3	Practical work: 2	
Teaching Methods: Lectures, Practical classes, Consultations, Research work (optional)			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	
Practical work	5	oral exam	60
Preliminary exam(s)	30	
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.