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| Module name: | | Biochemistry 2 |
| ECTS | | 6 |
| Learning effects | | Course outcomes: |
| Knowledge: | 1 | Knows and understands the main metabolic pathways of the most important biochemical compounds: carbohydrates, amino acids, proteins, lipids, porphyrins, nucleic acids. |
| | 2 | Knows and understands connection between improper functioning of metabolic pathways and metabolic diseases (e.g. ketosis, diabetes, phenylketonuria, gout, etc.). |
| | 3 | Knows and understands specificity of metabolic pathways in distinct organs and tissues in relation to synthesis/catabolism of specific biochemical compounds. |
| | 4 | Knows and understands signal transduction pathways induced by different compounds belonging to hormones or growth factors. |
| | 5 | Knows and understands biochemical composition and characteristics of semen, milk and urine. |
| Skills: | 1 | Is able to identify specific metabolites of biochemical compounds and determine their properties based in characteristic reactions. |
| | 2 | Is able to use the main laboratory techniques, such as: qualitative analyses, titration, colorimetric measurements, diagnostic tests. |
| | 3 | Is able to predict direction of metabolic processes depending on the energetic status of the organism (availability of proteins, lipids, carbohydrates in diet). |
| | 4 | Is able to point differences among species in regard to metabolic changes in animal organisms. |
| | 5 | Is able to point differences among species in regard to physiological and pathological values of biochemical parameters in animals' blood and urine. |
| Competences: | 1 | ready to share his/her knowledge and practical skills with other team members. |
| | 2 | ready to interpret results obtained and make conclusions based on performed analyses or observations, and is able to explain the results in a clear and factual manner using arguments based on available scientific literature regarding veterinary sciences. |
| Objectives of the module required to obtain learning effects: | | The aim of the second semester of Biochemistry course is to teach students about the most important biochemical processes necessary for proper functioning of animal organisms. Students are taught about the metabolic pathways of the main groups of biochemical compounds (carbohydrates, lipids, proteins, nucleic acids, porphyrins), about pathologies connected with the disorders concerning these metabolic pathways, as well as biochemical aspects of cellular signalling. The metabolic pathways are also presented in the aspect of proper functioning of specific organs and tissues. During the practical part of the course students are performing qualitative and quantitative analyses, that are used in biochemical diagnostics, and are important for veterinary medicine. |
| Assessment methods: | | 7 short written tests, practical skills assessment, 3 written tests, written exam |