

Module name:		Immunology
ECTS:		4
Learning effects		Course outcomes:
Knowledge:	1	Student understands the structure and functions of individual parts of the immune system in the context of the physiology of other systems of the host
	2	Student knows and describes the mechanisms of innate and adaptive immunity
	3	Student knows and describes methods of inducing and assessing systemic and local immune response
	4	Student understands the mechanisms regulating the immune response induced by infectious agents and cancer
	5	Student knows the types of vaccines, understands mechanisms of their mode of action and the demand for human and animal infectious diseases immune-prophylaxis
	6	Student knows the mechanisms associated with the transmission of passive immunity from the mother, understands the causes of immune disorders associated with maternal antibodies
	7	Student knows the mechanisms and describes the development of all types of hypersensitivity, is aware of the consequences arising from these mechanisms
	8	Student knows and describes the causes and consequences of innate and adaptive immunity deficiencies and disorders
	9	Student knows the background of immune mediated diseases in animals
	10	Student understands the importance of serological (qualitative and quantitative) tests for the diagnosis of infectious diseases
Skills:	1	Student can prepare animal serum for serological tests
	2	Student can independently perform a simple serological test (quantitative and qualitative test: agglutination, passive immunodiffusion and neutralization) and interpret the results of serological tests in the context of the diagnosis of infectious diseases
	3	Student is able to use conjugates of monoclonal antibodies in the context of infectious diseases diagnostic tests and assessment of the patient's state of health (immunofluorescence assay, enzyme immunoassay and radioimmunoassay) - for detection of antibodies in the patient's serum and for identification of an infectious agent
	4	On the basis of acquired knowledge, student can isolate specific populations of immunocompetent cells as well as determine their activity using enzyme immunoassay and immunofluorescence assays and molecular biology methods.
Competences:	1	Student formulates opinions in the context of the importance of immunology and serological tests in the diagnosis of infectious diseases, immune mediated diseases and identification of immunodeficiencies
	2	Student is aware of the need for immune-prophylaxis of human and animal infectious diseases
	3	Student is ready to apply obtained knowledge and skills in further stages of education
	4	Student is aware of being knowledgeable and understands benefits from exchanging opinions and is ready to share self-competences with colleagues and animal owners
	5	Student is aware of the need to continue education and to improve the knowledge and the professional skills, using scientific sources

Objectives of the module required to obtain learning effects:	Basic (contemporary) immunology has its roots in microbiology, genetics, biochemistry, cytology, molecular biology, biotechnology, pathology, and clinical observations. The major goal of this course is to impart understanding of the relations between body defence mechanisms and infectious agents, and the ability of the immune system to recognize the altered self-cells. Effort is focused on understanding mechanisms that enable to design of efficacious vaccines that eventually control animal infectious diseases.
Assessment methods:	Seminars, 3 written tests, written exam